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THE

FLORICULTURAL MAGAZINE,

AND

MISCELLANY OF GARDENING.





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AND

MISCELLANY OF GARDENING.

EDITED BY

ROBERT MARNOCK,

CURATOR OF THE BOTANICAL AND HORTICULTURAL GARDENS, SHEFFIELD.



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PREFACE.

OUR Editorial duties having reached the close of another Volume of the FLORICULTURAL MAGAZINE; we, therefore, feel ourselves called upon to address a few remarks to the patrons and promoters of gardening generally, but more particularly to our own friends and subscribers. To those who enjoy the blessings of vigorous health, to the invalid, to the man of business, engaged in the busy turmoil of active life, to the man of leisure, and to the fair sex in general, Gardening and Floriculture happily present claims in a form all but irresistible; while multitudes acknowledge the benefits conferred. That this should be the case, is perfectly in accordance with the wisdom of Him who placed man in such intimate connexion with the vegetable world, and who so admirably adapted the latter to administer to the wants of the former. Happiness is an object desired by all intelligent beings; but the brightest earthly views which it ever presents, are ordinarily prospective. It may be sought in the possession of wealth, or power, or in the endless variety of emotions which occupy the human mind. As the latter must, therefore, have an object ever before it, and as that object must have the captivating property of novelty, no occupation can surpass, and few equal, the charms which Floriculture and Gardening generally present to the mind. That the FLORICULTURAL MAGAZINE has been a useful and active agent in promoting so delightful a study, we have had many flattering testimonies, both in its increasing circulation, and the approbation with which it continues to be received by those whose opinions deserve our highest M 2540 esteem and respect.

We refer with satisfaction to the improvement which we have accomplished, in obtaining monthly notices of whatever is new and interesting, in the Public Nurseries and Private Gardens in the neighbourhood of London. This is effected at considerable expense; but we hope those who take an interest in the work, will use their influence in extending its circulation, and thus enable us to carry out other important improvements which we have in view.

We desire to return thanks to our numerous Correspondents, whose excellent Communications appear in such variety throughout the Volume.

R. MARNOCK.

Botanic Garden, Sheffield, April 25th.

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THE

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No. XXV.-JUNE, 1838.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE OF THE GENUS GESNERIA.

Seeing in the plate of your present Number a beautiful species of Gesneria, I send you our method of cultivating this lovely genus.

As soon as they have done flowering, the quantity of water should be gradually lessened until the leaves and stems are decayed; they should then be removed to a cool part of the stove. In November, we place our Dahlias on the decayed bark of a vinery pit, in a corner of which we place our Gesnerias and various bulbous plants requiring stove heat, all of which are covered above a foot deep with decayed tan. Through the winter, the house is used as a repository for greenhouse and half hardy plants. In February we remove the tan to get at the choice sorts of Dahlias for We also removed the Gesnerias in the best state of propagation. preservation. Previous to potting the roots, the soil was aired in a forcing house. The soil used was equal parts of loam, leaf mould, rotten dung, and sand, well rubbed through the hands, but not sifted; one inch of potsherds was put in the bottom of each pot, over which were laid some rough siftings of leaf mould and rotten dung: the pots used were only of sufficient size to contain the roots or tubers. I have invariably found them to push their first shoots with greater vigour, when kept for a time in small pots. After potting, they receive a gentle watering with tepid water, and

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ON THE CULTURE OF THE GENUS GESNERIA.

are plunged in a cucumber or other hothed frame, watering very cautiously at first; indeed I never apply water until the shoots are an inch long, and then in small quantity; but as they advance in growth, the quantity of water is increased. The surface soil should be frequently stirred; this is of great consequence to all plants cultivated in pots. In strong sunshine, the plants should have a gentle shade; and in the afternoon of every warm day, the leaves should be gently sprinkled with water about 70°, which will greatly facilitate their growth. When the plants get too tall for the hotbed, they should be removed to a moist shady part of the stove, but as near the glass as possible. When the roots protrude through the bottom of the pots, the plants should be shifted into large pots, giving plenty of drainage, and at no stage of their growth, or decline, should they be watered with cold or hard water. The tuberous sorts can readily be propagated by division of the roots, but care must be taken lest the fresh cut parts will cause decay. A hot iron applied to the cut parts will render the wound impervious to wet, and, therefore, less liable to decay. It is also desirable to plant the tubers rather high in the soil, and to give no water for several days. All the Gesnerias strike freely from cuttings, but the most expeditious way I find, is to take the shoots when about three inches long, with a small portion of the old tuber, and to plant them in sand and cover them with a bell glass; the cutting pot should be placed within another of a larger size, the space between the outer and inner one being filled with moss, and placed in a warm part of the flue or bark bed; the moss ought to be kept moist, and this will prevent the soil in the pots from becoming dry. The cuttings, of course, require shading during sunshine.

We have now G. Cooperi from cuttings last May coming into flower; also G. rutila, with numerous stems, coming splendidly in flower: indeed our plants of G. rutila are like great balsams, and the stems equally transparent. The plunging of the pots in a hotbed after potting, appears to be of the greatest service to them. Those of the plants not plunged are scarcely a foot in height, while, on the contrary, those which have been plunged in the bark bed are nearly three feet in height, with strong flowering bunches from the pots upwards. The sorts which we cultivate here are G. Cooperi, G. rutila, G. bulbosa, G. latifolia, G. splendens, (this

species we had last autumn with nearly 80 bells on it, and well deserves its title,) and oblongata, &c.

As we cultivate Gloriosas with more than common success, a paper on the subject, if acceptable, will be much at your service.*

JOHN MC EVOY.

* We shall be happy to receive the promised favour.

[It is with pleasure we are thus enabled to call attention to the genus Gesneria. The whole of the species are, without exception, highly ornamental, most abundant bloomers, and of comparatively easy culture. We have previously noticed this genus as highly deserving the attention of amateurs, or those who possess a small stove,—ED.]

NOTES MADE DURING A GARDENING TOUR.

BY THE EDITOR.

Mr. Garvie's Nursery, Stratford Green, Essex.

This is a small Nursery, but situate in a good neighbourhood, and though recently established, it contains many of the choicest and most valuable plants in the trade. Amongst some of those we noted in the greenhouse were—

Kennedya Marryatiana, valued at twenty-one shillings.—As a creeper, this is a valuable plant, the habit is less robust than K. nigricans, and is much more splendid. Those who take an interest in greenhouse creepers, and possess the means of cultivating them, will find this deserving their attention. We observed it in other Nurseries, valued at nearly the same rate.

Pimelia hispida.—A neat and rather new greenhouse plant, at three and sixpence.

Ilex,—A new species of this interesting genus, discovered by Mr. Drummond, in Texas. The foliage is lanceolate, mostly deeply serrated, sometimes divided. It is doubtful it will not prove hardy; since in several parts of Scotland and England, even south of London, trees of the common evergreen oak, fifteen and eighteen inches or upwards in diameter, have by the late severe frosts been killed to the ground.

Cytisus racemosus.—This is a vigorous growing and free flowering plant, well adapted for conservatories, and flowers during April and May. Good plants are offered at five shillings; it is rather new, but will, no doubt, soon be cheaper.



Ipoma Hederacea.—The recent introduction and addition of the splendid I. Horsfallii to this showy genus, created an interest in its favour; and any new plant, if at all allied and bearing a resemblance to Ipomæa, is still invested with more than an ordinary degree of interest. The one in question, I. Hederacea, will have a contrary effect. It was for some time eagerly sought after and widely distributed over the country, before its merits were ascertained; it has since flowered in various gardens, and is found scarcely deserving of cultivation. It is, of course, a creeper, and one of very rapid growth.

Aralia japonica.—Many of our readers are, no doubt, familiar with A. spinosa, remarkable for its large spreading frond-like foliage, in some degree represented by the leaves of the common Angelica. A. japonica has been introduced to Europe through the exertions of M. Siebold, and, as will be inferred from the name, it is a native of Japan, and, therefore, some doubt remains as to whether it will bear the severity of our ordinary winters. It is a tree of great beauty, and should it prove hardy, it will be a valuable addition to the Arboretum.

Camellia Frankfortensis.—This is a continental variety, said to be beautiful, but at present rather high priced.

Grevellia bipennilifida.—A very handsome species, with large subdivided leaves. Thirty-one and sixpence to two guineas.

King Camellia.—This is a very beautiful variety, a figure and description of which we shall shortly give in this Magazine.

Clematis bicolor,—Twenty-one shillings for well established plants.

Clematis var. grandiflora.—Thirty-one and sixpence.

Clematis Azurea.—These are Chinese plants of great beauty, probably not quite hardy. They are at present scarce, and much in request.

Mr. Bunney's Nursery.

The following are a few of the things pointed out to us new, or scarce, and, therefore, deserving of notice:—Camellia Sweeti, at ten shillings and sixpence. C. Phillipsi, a white flowering variety, at five guineas. Cytisus racemosa, C. Adnocarpus, and C. Rhodophina. The last three named plants resemble each other, especially the two latter, and, although evidently distinct plants,

they are in some instances confounded. C. racemosa is larger in the foliage, and of a more silvery appearance than either of the other two. C. Adnocarpus is less compact in its habit than C. Rhodophina. They each flower in great profusion during April and May. They are common in most of the Nurseries, and may be purchased at from two shillings and sixpence to seven shillings and sixpence, according to the kind and size of the plant. Araucaria excelsa, about three or four feet in height, valued at twelve guineas. Camellia Palmers Perfection, three guineas a plant. Malva Towardi, at five shillings per plant. This plant has been strongly recommended for its beauty. The flowers are scarcely larger than a sixpence, and of very light rose colour. is by no means a very ornamental plant; it is offered at five Seedum Sieboldii.—This is a very pretty shillings a plant. scarlet flowering plant, and may be purchased at two shillings and Azellea Speciosa, said to be raised by Cunsixpence each. ningham, of Edinburgh. Correa rufa. This is new, and rather high priced.

Mr. Bunney, besides cultivating a general assortment of the newer and choicer kinds of greenhouse and hardy plants, also enters extensively into the cultivation of the lighter things, such as geraniums, and other showy plants, for the London market. Some progress has also been made here in the cultivation of orchidaceous plants, and few possess equal facilities with Mr. Bunney, for speedily importing large quantities of plants of this interesting family.

Plaster Lodge, near Bromley, Kent.

Here Mr. Pressly, the gardener, has for many years kept up a collection of new plants. Ample testimony has often been borne to his skill and industry as a cultivator, in the numerous premiums and awards received by him at the London Horticultural Societies, Flower Shows, and other public exhibitions. We believe Mr. P. is also the raiser of one of the best new Camellias that has yet appeared. It flowered for the first time about twelve months ago.

Henderson's Nursery, Pine Apple Place, Edgeware Road.

On entering the Show House, our attention was directed to a black Hyacinth, said to be scarce. Here several plants, Rhodantha Manglesii, were in fine flower. When well grown,

this is really an exceedingly beautiful annual, and it deserves to be extensively grown. Mixed amongst the other things, were several plants of Laburnums. They had, of course, been forced into flower, and had a very gay appearance. They are evidently well adapted for forcing, and we doubt not might be turned to good account in this way. In another department of the exotic houses was pointed out to us a new plant, said to be a species of Rhodantha, with yellow flowers. Rhodantha is an interesting genus, but the plant in question is greatly inferior in habit to that of R. Manglesii. We also noticed a species of Epiphyleum, which was stated to bear white flowers, and said to be an imported plant.

South London Floricultural Show, April 19th.

Being in the neighbourhood, we called here, and in looking round the spacious room which, notwithstanding the excessively cold and unpropitious weather, was well filled with many choice plants, such as Epacris, Diosma, Camellias, Erices, Epiphyllums, Auriculas, Pansies, Hyacinths, Geraniums, &c. The following we noticed more particularly, being remarkable either for their size or the beauty of their flowers. Camellia exemia, Myrtifolia, Colvelli, Sasangua plena alba, and Corallina. The latter is a very beautiful variety, the form of the flower bearing a close affinity to C. myrtifolia, Ixia grandiflora. This is a lovely little plant; it, of course, requires the protection of a greenhouse or glass frame-Erica hirtenella, Vernex, Echeflora acuminata, and various others. For the best Green-edge Auricula the silver medal was awarded to Mr. Naylor. Geraniums-Bellessimo, light col.; Lyrinx, light col.; Cassens, rose; Triumphens, rose and purple; Magnet, light; Miranda, crimson; Lord Denman, crimson; Verbena arreniana—this apparently approaches near to V. Tweediana; it is, however, apart from novelty a much better thing, being of a dwarfer habit and the colour of the flower a much deeper scarlet, A framed plate of Harding's Maid of Honour Dahlia-if not a flattered drawing this must be a very handsome flower, the colour is light rose. Amongst other things we noticed a Dahlia in pot just opened into flower. There were also a fair show of Pansies, and many of the flowers very good, perfect, and of good size, considering the extreme coldness of the weather. A prize

was awarded to Mr. Banks for the best Herbarium of exotic cultivated specimens; they had been dried and fastened on paper with considerable care, but until some means is discovered of exhibiting dried specimens without the great injury to which they are at present exposed, it is not probable that the public will be often gratified by exhibitions of this kind. We also noticed some Strawberries in pots, Apples, Shaddocks, and Baking Pears in dishes. Amongst the florist flowers were a good display of Hyacinths.

Mr. Forest's Nursery, Kensington.

Mr. Forest has made, and is still proceeding with, many improvements. The front range of plant houses have been completely removed, and pits with glass roofs are now being built on the same site. For the cultivation of nursery plants the latter is more economical to keep in repair, and much more convenient for all nursery purposes. We noticed good plants of Pinus Webiana and P. menziesia. The latter may be purchased at three guineas and the former at two guineas each; both have stood the severity of the past winter with but little injury. A good deal of attention appears to be paid to this tribe of plants, so far at least as the keeping up a considerable collection of the choicest kinds in pots.

(To be continued next month).

EDITOR.

A FEW HINTS ON THE CULTURE OF THE CARNATION.

The Carnation in its cultivated state was unknown to the ancients, indeed, it is doubtful whether they were at all acquainted with it, as it is neither mentioned by Pliny, in his voluminous writings, nor sung of by any of the Roman poets. In Europe it has been cultivated from time immemorial, and still continues to be in the highest favour, as well for the beauty of its flowers, as for the rich spicy odour of its blossoms. British florists chiefly procure the best of their seed from Germany and Italy, where it is also the principal florist's flower. The varieties of the carnation are arranged into three classes, viz., flakes, bizarres, and picotees. Flakes have but two colours, with large stripes going quite through the petals. Bizarres, a French word, signifying odd, or irregular,

whence they are variegated in irregular spots and stripes, but not having less than three colours. Picotees, from the French piquettee, meaning pricked or spotted, have a white ground, spotted with scarlet, red, purple, or any other colour. There are numerous varieties under each class, arranged into subdivisions according to the predominance of the colours, as scarlet-flake, pink-flake, purple-flake, yellow-flake, &c.; scarlet-bizarre, crimson-bizarre, &c.; and purple-picotee, &c. Picotees are smaller flowers than Carnations, and easily distinguished by the serrated margins of the petals, and the colours are principally yellow and white spotted. Whatever the colours of the flowers may be, they must be perfectly distinct, and disposed in long regular stripes, which are broadest at the edge of the lamina, and narrowing gradually as they approach the base of the petal, where, in a perfect flower, they should terminate in a fine point. Each petal should possess a due proportion of white, about a half, or nearly, which must also be perfectly clear and free from spots. Bizarres, or such flowers as contain but two colours upon a white ground, are considered preferable to flakes, particularly when their colours are very rich and regularly distributed. In the Carnation the three predominent colours are scarlet, purple, and pink; scarlet and purple are not often seen in the same flower, but the latter colours are frequently to be met with. New varieties are only obtained from seed; thousands of seedlings are blown annually by florists and amateurs, and probably without one being found worth keeping. Established varieties are propagated either by layering or cuttings, or in floricultural language by pipings. The soil best adapted to the carnation is rich rather sandy loam; the climate in which they are grown should be free from extremes of every kind; and they are, on that account, by the most eminent florists, grown in pots protected by a frame in winter and covered by an awning while in flower. Carnations also look extremely well when planted in beds of properly prepared soil, over which a canvass is placed when the plants are in flower, and protected in winter by pits or frames.

PROPAGATION BY LAYERS.—The practical part of layering has nothing very remarkable in it, when a sufficient quantity of hooked pegs and compost is provided, the pot (if the plants be in pots) containing the plant to be layered is placed on a table, and the

layers prepared by cutting off the lower leaves, when, after the earth is stirred, the pot is filled up with light rich mould, not too fine. The incision is made by entering a quarter of an inch below the joint, and passing the knife up through the centre of it; the shoot must then be pegged down, and buried about half an inch in the soil. When the plants to be layered are (instead of being in pots) planted out in beds, it is then merely necessary to increase the soil around each plant to be layered, to such an extent as is required, and after the incision is made the shoots are to be pegged down the same depth, and in the same kind of soil as recommended above. When the layers are rooted properly, which is generally in about three weeks after laying, provided they are kept regularly moist and shaded from the heat of the sun; they should then be cut off from the old plant with half the connecting stalk, and be immediately planted into small pots, three or four plants placed round the side of each pot, which should be so placed as to render them capable of being covered in case of excessive rains, till the severity of winter renders it necessary to remove them into pits or frames, so that they may be protected from the severe frosts.

Hogg, one of the most successful cultivators, recommends layering when the flowers are sufficiently expanded to shew which are in colour and true to their kinds, which he finds is about the middle of July, and from that time he continues layering till about the middle of August. He says the plants ought to have a good watering the day previous to their being layered, as they can for some time after, only receive it through a fine rose, otherwise the soil would be washed off the newly layered shoots. In layering, Hogg cuts off the extreme end of the tongue below the joint, because if left on it is apt to decay, and prevent the protusion of the granulous matter from which the fibres issue; under favourable circustances, he says, they will be fit to take off in six or seven weeks, when they are to be planted into small pots, which are to be set on tiles, slates, or boards, and there to remain till they require to be removed for protection from frost, &c.

PROPAGATION BY PIPINGS.—This a very uncertain mode of propagating, as it is seldom the half of the cuttings take root. It is, nevertheless, a very requisite resource when the shoots are too short for layering, or, when in layering they get broken. The first thing required in the propagation of the Carnation by pipings,

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10 ON THE SOWING OF EXOTIC AND OTHER TENDER SEEDS.

is to get a slight hot-bed prepared in the end of June (the time recommended for putting in the pipings), and the bed must be covered four or five inches with light soil laid very regular and even. The piping or cutting should have two or three complete joints, and cut horizontally, close under the second or third joint, as the case may be; some recommend the leaves to be shortened, but the most experienced florists never shorten the leaves either of pipings or layers. The earth where the pipings are to be planted should be moderately moistened, then with a hand glass make an impression on the surface, in order that the pipings may be put in the proper place; they should after that be planted neatly and regularly, but not more than half an inch deep, and an inch distant from each other; in order to fix the earth more closely round them, after planting they should be gently watered, which will also serve to keep the air out. After every watering, the glasses ought to remain off till the leaves are perfectly dry, at the same time taking care that the plants are not exposed to the sun. To prevent the admission of too much air, it is advisable to press the bottom edge of the glass into the soil. They must be diligently attended to as respects sun and air, and the soil ought to be kept regularly moist till the pipings have emitted fibres. The plants should have a little of the morning sun, but must be shaded when the heat becomes great. In dull cloudy weather, a little air should be given; but if that should not occur, the glasses may be taken off a little in the morning. When once the plants are tolerably well rooted. the glasses are of no further use, and consequently may be entirely removed. Those of the pipings that first strike (for they never all strike at one time), are known by the superior verdure and growth of the plants, and they ought to be taken off and planted in pots or a prepared bed, over which, if a frame and lights can be put, the plants will do all the better.

AMICUS.

ON THE SOWING OF EXOTIC AND OTHER TENDER SEEDS.

BY THE EDITOR.

As the mode usually adopted by cultivators for the sowing and rearing of tropical and other choice seeds, is but little known by general readers; the following remarks will perhaps afford some useful hints to those who may at any time have occasion to practice them. In many first-rate plant establishments, hundreds and often thousands of packets of different kinds of seeds are annually sown, and as these are very frequently seeds of exotic plants requiring artificial heat, it becomes necessary to adopt some method calculated to afford them the requisite temperature, and as this can only be secured by means of hothouses, greenhouses, or hotbed-frames, it of course becomes an important consideration how so large a number of kinds are to be reared distinct and separate from each other in a space so small, probably not more than a few square yards, and yet this is easily accomplished by the plan which we shall endeavour to describe.

In gardens where exotic seeds are annually raised in large quantities, it is usual to provide what are termed seed pans, represented by the annexed Figure.

They are of various sizes, from four or five to fifteen or eighteen inches in diameter, and in proportionate depths of about two to six or seven inches.

When a quantity of seeds are to be sown, a requisite number of these

pans or shallow pots are selected, a slight covering of broken pots or small stones are laid in the bottom, on this, a thin layer of moss, or some other loose substance is laid on the top of the stone or crockage, and again on this is placed the soil in which the seeds are intended to be sown. The soil or compost is, of course, prepared to suit the particular kinds of seeds, and when a sufficient quantity is placed in the pan, it is pressed down by the hand, and afterwards consolidated by using the bottom of a garden-pot of smaller diameter than that of the pan. The compost or earth is thus made quite firm and hard, and the surface smooth, the edge of the pan being about three quarters of an inch above the soil. Being so far prepared, the pans are ready to receive the seeds, small pieces of wood are prepared for labels about half an inch in breadth, and about four or five inches or any convenient length, and about an eighth of an inch in thickness. These being made quite smooth on one or both sides, and so cut square at the top and pointed at the other end, for the purpose of being easily inserted

into the earth; but previous to this being done, the surface of the earth in the pot is lined across with the point of one of the labels. If four kinds are intended to be sown in one pot, two lines are made at right angles with each other, which marks the surface into four equal segments. If six kinds are intended to be sown in one pan, three lines are drawn, which if neatly done, will throw the surface into six equal segments: and if eight kinds, four lines and so on. Each kind of seed is allowed an equal portion of room according to its kind, and thus each kind has also its own name written on a label opposite to the respective portions of earth in which the seeds are deposited. Small seeds require to be slightly covered, while the stronger and large kinds require to be placed at a greater depth below the surface. The treatment, transplanting, &c., of seeds after they have germinated and attained sufficient magnitude, may probably be noticed in a future number.

EDITOR.

DRAWING AND ITS ADVANTAGES RECOMMENDED TO THE FAIR SEX; TREES AND FLOWERS THE MOST; SUITABLE OBJECTS AS EXERCISES FOR THEIR PENCIL.

BY ALPHA.

"The flowers that grace their native beds, Awhile put forth their blushing heads; But ere the close of parting day
They wither, shrink, and die away;
But these which mimic skill hath made,
Nor scorch'd by sun, nor kill'd by shade,
Shall blush with less inconstant hue,
Which art at pleasure can renew."

That drawing is an innocent and rational employment, and a most delightful recreation and amusement, none but a professional fault-finder will attempt to deny; and the fact of its being considered an essential part of the polite education of both sexes, is an attestation of the high estimation in which it is held by the fashionable world; but it does not thence follow that every object that presents itself is a proper subject for imitation, or that all persons can represent the same object with the same degree of propriety; indeed, quite the reverse is the case: for, whilst we allow, that the professional artist has a right to, and can reasonably imitate whatever subject may present itself, we cannot but perceive, at the same glance, that all such persons ought to be governed by the com-

mon rules of decency, and more particularly, that those of the fair sex who have recourse to drawing merely as a source of gratification and amusement, ought, in the highest sense, to be overruled by propriety and delicacy, in the selection of the objects they wish to represent; but, to take a plainer view of the matter, it is too often the case that drawings and paintings, instead of cultivating and strengthening virtue and improving our morals, are calculated to have a contrary effect: the picture in itself may be highly finished. the distribution of light and shade most artfully adjusted, the diminutions of the perspective true to a nicety, in short it may be perfection's self, but, I ask, is this masterly performance an equivalent for the most malignant effects? Does it bespeak a refined disposition or a benevolent temper, to be enamoured with the touches of a lacivious pencil? Assuredly not, but it is most certain to create no very high opinion of a person's intellectual discernment, much less can it raise an amiable idea of his moral character. It may be argued that many such pieces are the completest models in existence. This is no apology for the performance, but a lasting disgrace to the art; since the more nicely they are executed, the more dangerous is their influence. "They strike the surer and deeper, they dress destruction gay, and pave with beauty the way to ruin." In recommending the beauties of Nature, more especially of Flora, to the attention of my fair readers, I trust I shall have no such objections to contend with. I shall, therefore, in the first place, notice the claims which they have upon our attention; and in doing so, will briefly advert to the relationship and analogy which exists between ourselves and the vegetable kingdom. There is a grand relationship, for both are the work of the same creative power, and both are designed and completely fitted to fulfil their respective ends. There is, moreover, a close analogy, for who can observe the manner in which the individual members of the vegetable world, spring into life, and see them gradually attaining maturity, and, after having performed the functions for which an all-wise Providence has ordained them. to see them, some sinking into oblivion, and others, "useful in their day, leaving the scent of a good name behind;" who, I ask, can observe these things without discovering a very close resemblance between their existence and our own; and without perceiving an unity of design in every part of the work of the Great

The productions of the vegetable kingdom, combining in a variety of ways utility with beauty, have a manifest claim upon our attention. The most magnificent of Nature's productions, the trees of the forest, contribute in a variety of ways to our preservation and comfort; they afford shelter to the beasts of the field, and the birds of the air pour forth their melodies from among the branches; while, at the same time, the different forms and habits the several species assume, impart a graceful beauty, and pleasing variety to the view. Those which skirt the extremities of the landscape, stealing away from the real bulk, and lessening by gentle diminution, appear like elegant pictures in miniature; those which occupy the nearer situations, are like a set of noble images, swelling upon the eye in full proportion: the Oak, rearing its noble and stately branches, reminding us of those "Hearts of Oak" which have long been Old England's glory; the family of Pines, robed in verdure, and piercing the air with their lofty spears; the Acacia, with its light and airy foliage, gently waving in the summer's breeze, or clac with milk white blossoms; the Poplar's tapering form, contrasting with the Cedar's stately magnificence, or the Yew tree's solemn shade; the Birch with its slender twigs hanging

"Beautifully fair,
"As graceful in its loveliness
"As maiden's flowing hair."

And others far too numerous to mention are among the number of those which are highly useful in various branches of rural and domestic economy, and at the same time ornament the several apartments of our abode with a mixture of delicacy and grandeur.

The craggy promontory, the arching wood,
The broidered mead, the landscape and the grove,
Hills, vales, and sky drift seas, and torrents rude,
Grots, rills and caves, and bow'rs that breathe of Love.

These various features of the Landscape are objects which claim our undivided admiration, and in connexion with each other, are calculated to produce the happiest effect on the moral character: the one part, by solemn magnificence and awful grandeur, inspire us with a pleasing dread, and lead to reflections of a most salutary nature. The solemnity of a forest, for instance, seems to admonish us by its deepening shades, that we are shut out from the world;

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1 Chelone alba. 2 Gladidus ramosus -36 ineraria bicolor vi Victoria. Digitized by Google that an opportunity is afforded to search our own hearts, and to meditate on the passing scene: these are, indeed, duties incumbent on us at all times, but the solitude of a forest seems more especially to excite us to reflection. The word "solitude" may perhaps arouse fear in the timorous breast; but let such remember that the sweets of solitude are infinitely superior and more durable than those of gaiety and dissipation. But to return—as the one part of this imposing scene is calculated to produce a deep reflexion and self examination, so the other part is calculated to impart a height of pleasure thereto, such as the pomps and pageantries of the world can neither bestow nor tarnish; and that mind which is most exalted and strengthened by solitude, can most fully appreciate the permanent pleasure which these natural beauties afford, and is in the best condition to repel the ensuaring attacks of a gay and alluring world. Those trees, however, of less lofty pretensions, whose situation is more generally in the immediate vicinity of mansions, and which art employs as the most prominent features of pleasure grounds, are for that reason universal favourites: more, perhaps, occasioned by the situations they affect, than from any real utility; but, leaving that out of the question, we find them generally and deservedly admired.

Alpha.

REFERENCE TO PLATE XXVIII.

GLADIOLAS RAMOSUS, Branching Corn Flag.

NAT. ORD. IRIDEÆ. CLASS TRIANDRIA MONOGYNIA.

The natural order Irideæ contains many of the very gayest of our flowering plants; and highly ornamental as the subject in question really is, it is not even, when in its highest perfection, anything more than a fair representation of a large majority of the species belonging to this exceedingly beautiful and natural family. The greater part of the genera (nearly 40) included in Irideæ, when under proper cultivation, may be regarded as highly deserving the utmost attention of the amateur and cultivators generally. As some of the genera which occur to our mind, we might mention Antholyza, Babiana, Anomathica, Laperousea, Galaxia, Herbertia, Tigridia, Ferraria, Aristea, Witsenia, Arthrosanthes, Marica, Moræa, Iris, Watsonia, Sparoxis, Ixia, and last, but perhaps not least, the well known Crocus, from the stigma of which is obtained the well known saffron of commerce. This colouring matter has the singular property of entirely disappearing under the influence of the sun's rays. For the drawing of this Gladiolus, we are indebted to Messrs. Fisher, Holmes and Co., of Handsworth Nursery, near Sheffield.

CINERARIA BICOLOR VAR. VICTORIA ROYAL CINERARIA.

NAT. ORD. COMPOSITÆ. CLASS SYNGENESIA SUPERFLUA-

Of this sportive genus many very beautiful varieties have lately been originated. We are not informed with whom the one in question was first introduced; it was, however, communicated to us by Messra. Fisher and Holmes, noticed above. The plants already in this country and belonging to the extensive and natural order Compositæ, furnish materials sufficient to place beyond all limit the varieties obtainable by means of crossing, hybridizing, &c. one kind with another. Amongst those genera already cultivated and regarded as ornamental, may be mentioned the Chrysanthemum, Sinense, Arctotis, Tagetes, Calendula, and the Dahlia. Others again are highly valuable on account of their medicinal properties; and not a few are highly nutritious as articles of food, such as the roots of Scorzonera and Salsafy, Artichokes, Cardoons, Endive, Lettuce, Succory. This, with other varieties of Cineraria, may be grown during summer in a sheltered border; but to bring them to high perfection, they require the protection of a greenhouse.

CHELONE BARBATA VAR. ALBA, White-flowered Chelone.

NAT. ORD. SCROPHULARINÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

This is an interesting plant, possessing the graceful habit of the C. barbata, but having white or cream coloured flowers. We believe it is an accidental variety, obtained from some seedling plants raised from C. barbata. This variety was kindly presented to us some time ago by the Nurserymen alluded to above. It is, of course, an hardy herbaceous plant.

NOTICES OF NEW PLANTS,

KENNEDYA NIGRICANS, Dingy-flowered Kennedyn.

Bot. Mag.

NAT. ORD. LEGUMINOSE. CLASS. DIADELPHIA DECANDRIA.

One of the most robust and free growing of the genus. An established plant, now growing in the border of one of the greenhouses in this garden; has leaves nearly six inches across. The flowers, which are numerous, are, however, owing to their dark colour, scarcely perceptible amongst the large and dark green foliage. It cannot be recommended as an ornamental plant, so far, at least, as the flowers are concerned. It is a native of New Holland, and would appear to have flowered in the Clapton Nursery, and at the Edinburgh Botanic Garden, at the same time.

CEREUS PENTALOPHUS B. SUBARTICULATUS, five-winged Cereus.

CEREUS PROPINQUUS DE CANDOLE.

Bot. Mag.

CEREUS LEPTACANTHUS D. C.

NAT. ORD. CACTER. ICOSANDRIA MONOGYNIA:

This is a slender, upright, five to seven sided species, bearing a solitary greenish rose-coloured flower. It is a native of Mexico, and has produced its flowers for the first time in this country, in the collection of Mr. Mackie, at Norwich.

ECHINACEA DICKSONI, Mr. Dickson's Echinacea.

Bot. Reg.

MAT. ORD. ASTERACRE. CLASS, SYNGENESIA POLYGAMYA.

A Mexican plant, with flowers resembling that of a salmon coloured single flowered dahlia. It is about one foot in height; the leaves are large, entire, or

slightly loled. Nearly related to E. heterophylla, but is a much handsomer species. It has flowered in the gardens of the London Hosticultural Society, continuing to bloom from the middle of August to the end of April.

PIMELEA INCANA, Hoary Pimelea.

Bot. Reg.

NAT. ORD. THYMELACEE. CLASS, DIANDRIA MONOGYNIA.

This is an interesting plant, a native of Van Diemen's Land. Its habit is upright, with long slender branches, bearing at their extremities clusters of snow white flowers. The leaves resemble those of the Cottoniaster Microphylla, being small, round, and with scarcely any foot stalks, of a dark green above, and quite white, and woolly underneath. Seeds of this very pretty plant were, several years ago, communicated to this country from Van Diemen's Land, by Mr. J. Backhouse, to his brother, Mr. Thos. Backhouse, of York. Plants were raised, and sold into various gardens, and in Jan. 1837, we saw at Major Yarborough's, near York, a plant of this species, upwards of five feet in height, and at the time in flower. We brought some specimens with us; and, on arriving at home, they were placed in a jar of water, and placed in a back kitchen, and by the severity of the weather, the whole of the water in the jar was completely frozen through. They were allowed to stand in this way for two nights and a day. They were then removed from the influence of frost, and gradually thawed; and it being found that they had sustained no injury from the frost, they were made into cuttings, and placed under a hand glass, where they remained green and elongated, several new leaves having been formed after a period of three months, but without producing roots. From what we have stated, we think there can be little doubt but the plant is nearly, if not quite hardy. This species is said to be near P. nivea.

CRYPTOCHILUS SANGUINEA, blood-coloured Cryptochilus. | Bot. Reg.

NAT. ORD ORCHIDACER. § EPIDENDRER. CLASS, GYNANDRIA MONANDRIA.

This is rather a pretty species, with small round pseudo bulbs, each bearing a single fleshy ovate lanceolate leaf. The flowers are produced on a short stem. They are tubular, conical, and of a scarlet colour. Found by Dr. Wallich, in rocky situations in the Northern Provinces of India.

REHMANNIA CHINENSIS, Chinese Rehmannia.

Bot. Mag.

NAT. ORD. SCROPHULARINER. CLASS. DIDYNAMIA ANGIOSPERMIA.

This is an exceedingly pretty plant, with a rather slender upright stem, and alternate entire leaves, somewhat resembling those of the China Aster. The flowers are solitary, on slender foot stalks from the axils of the leaves, and are of a yellow and purple colour. Tubular, with a spreading apex. "This interesting plant is a native of walls and waste mountainons places about Pekin, where it was collected by Dr. Burge." Treated as a hardy greenhouse plant; Rehmannia Sinonses flowers readily in the early summer.

· DIPLACUS PUNICEUS, Scarlet-flowered Diplacus.

Bot. Mug.

NAT. ORD. SCHOPHULARINER. CLASS. DIDYNAMIA ANGIOSPERMIA.

This is one of the handsomest plants of the class, which we have for some time seen. Its habit is that of a Mimulus, as it is closely allied to M. Glutinosus; indeed, according to some authors, the plant in question, and M. Glutinosus, form one genus. D. puniceus is, however, a much handsomer plant than M. Glutinosus; more shrubby, taller, and bearing scarlet flowers. "It was discovered by the gentleman just mentioned, (Mr. Nuttall,) during his late and arduous western travels, and transported in 1836, to the garden of Mr. Buist, the extensive Nurseryman of Philadelphia, by whom the whole stock was sent in the autumn of last year to Messrs. Lowe, of Clapton, who are consequently the only possessors of it. It cannot fail to prove a great ornament to our gardens." It is also mentioned here, that besides the above, three other species of this genus will shortly be published.

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ORNITHOGALUM MONTANUM, Mountain Ornithogalum.

NAT. ORD. LILIACEM. CLASS. HEXANDRIA MONOGYNIA.

A hardy bulbous plant, bearing white flowers in May and June. A native of the kingdom of Naples, differing from O. garganicum in the leaves, never being ciliated, and its more spreading panicle of flowers. It is distinguished from O. umbellatum, in being altogether a larger plant.

EPIDENDRUM CUCULLATUM.

This plant is the least of its genus. A native of Para, at Richd. Harrison's, Esq., Liverpool.

PLRAROTHALLIS OPHIOCEPHALA.

The flower of this plant is so remarkable, in its striking resemblance to "the head of a snake, with the jaws open, that it is difficult at first sight to believe it really a flower that one looks upon. To add to the deception, the small labellum is shaped like a tongue, and moves up and down when you peep into the mouth of the flower." At Messrs. Loddiges, and Mr. Barker's, Birmingham.

EPIDENDRUM LONGICOLLE.

Flowers pale yellow, nearly allied to B. Nocturnum, but less handsome. Native of Demerara. Loddiges.

SARCHOCHILUS PARVIFLORUS.

This is chiefly interesting, in being the second known species of the genus. It has no claim to ornament. It is a native of New Holland, and may be found at Messrs. Loddiges.

PHILADELPHUS TRIFLORUS. Wallach.

As a hardy plant this is as interesting as the genus is beautiful. It is a native of the Himalaya Mountains, introduced by Dr. Royle. It has lately flowered in the London Horticultural Society's Gardens, and is nearly allied to P. lavns.

RIBES MENZIESIL

A Calefornian species, resembling R. speciosum, equally hardy, but less ornamental than that plant. Obtained from seeds sent home by Mr. Douglas.

CIRRHOPETALUM CÆSPITOSUM. Of Wallach's Mss.

This is one of a recent and extensive addition of epiphytes, imported by his Grace the Duke of Devonshire; not very ornamental.

DENDROBIUM CANDIDUM. Wallach's Mas.

Introduced at the same time with the above. It resembles D. nobile, having an erect habit. The flowers are about a foot in height, and exquisitely scented.

OCTOMERIA GRACILIS. Loddiges' Mss.

A species of no beauty, like O. Baueri. A native of Rio, and cultivated by Messrs. Loddiges.

ONCIDIUM TETRAPETALUM.

A native of Jamaica, and introduced by Henry Lance, Esq., and lately flowered in the gardens of the London Horticultural Society; said to be a small flowered species, but exceedingly beautiful.

PULTENÆA OBCORDATA.

The whole of the species of this genus are both beautiful and interesting. It is a native of Van Diemen's Land, and is of course a hardy greenhouse plant. Flowered in the garden of Robert Mangles, Esq., of Sunning Hill.

VANILLA BICOLOR.

A fragrant, climbing epiphyte. A native of Guyana, and cultivated by Messrs. Loddiges.

CYMBIDIUM VIRESCENS.

Introduced from Japan by Dr. Siebold, and flowered during April last, in the nursery of Messrs. Rollisson, of Tooting. Considered sufficiently hardy to be cultivated in the greenhouse.

CHARNANTHE BARKERI.

An interesting and curious plant, a native of Para, imported from thence by George Barker, Esq., of Birmingham. The genus is nearest allied to Notylia in natural affinity.

EPIDENDRUM ALTISSIMUM.

A native of the rocky parts of the Bahamas, communicated from thence by Mr. Skinner, and now in the collections of J. Bateman, Esq., and Messrs. Rollisson, Tooting. In appearance much resembling E. Orcidioides, but remarkable for its excessive fragrance.

ACACIA CULTRIFORMIS.

A charming conservatory plant, cultivated at Messrs. Rollissons.

ONCIDIUM STRAMINEUM.

A native of Vera Cruz. A beautiful species, and recently flowered at the gardens of the Horticultural Society. The flowers are of a pale straw colour, and about the size of O. flexuosum, with a slight scent of Primroses.

MASDIVALLIA INFRACTA.

An epiphyte, a native of Brazils, and lately flowered at Messrs. Loddiges, Hackney. The flowers are whitish yellow, slightly tinged with pink.

REVIEW AND MISCELLANIES.

A Practical Treatise on the Cultivation of the Dahlia. By JOSEPH PAXTON, F.L.S. H.S. Editor of the Magazine of Botany, and Gardener and Forester to His Grace the Duke of Devonshire, Chatsworth, small 8vo. p. p. 109. London, Ozz and Co.

A very desirable little work with the above title made its appearance a short time ago, in which is collected everything necessary to be known concerning that ornamental and favourite flower the Dahlia, since its first introduction to Europe down to the present time; it is in fact the only accessible work that has ever been published, treating entirely on the Dahlia. It contains, not only all that has come under Mr. Paxton's own practical observations; but likewise the pith of everything that has been written and considered of any value. What has hitherto been written on the Dahlia is scattered through so many different works, all, or the greater part of which are inaccessible to the general reader; and as this pamphlet can be obtained at a very trifling cost, there ought not to be a Gardener or Dahlia cultivator, without a copy. It is very judiciously divided into the following heads:-Introduction, Rasy Culture, Effect of Climate und Soil, Situation, Propagation, Production of Varieties, Training, Preservation of the Roots, Characteristics of Excellence, and the Conclusion. We shall conclude this brief notice by earnestly recommending it to every grower of the Dahlia. We make the following extract or two, that the reader may judge of the Author's style and manner of treating the subject



The following Extract is from the article." Effect of Climate and Soil:"-

"The majority of Cultivators have, and I admit very reasonably, been inclined to attribute this superiority to the great variation of climate in different districts; for there can be little doubt that a warm and genial climate like that of the South of England, possesses considerable advantages over the bleaker districts of the North, and so far favours the growth of this plant, as almost invariably to give it a decided superiority, though under the same system of cultivation: but I do not believe that climate has such a material influence as is generally imagined, for I am firmly persuaded, that if more care and attention were bestowed with regard to situation and soil, the flowers produced in the North would be very little inferior to those raised in the South. Some may be disposed to regard this statement as rash and unfounded, and be ready to view the system I am about to propose for ameliorarating the soil as too troublesome; magnifying the apparent labour required to carry it into effect to such an extent, as to lead them at once to reject it without a practical trial; not considering that the blossoms by being so much finer, will make ample compensation for any extra labour bestowed, which indeed, in my estimation, is very trifling. I do not contend that the natural soil, however bad it may be, will require to be entirely removed, and its place supplied with fresh earth from a distance; but I do maintain, that the natural soil of any garden or other place, whether a stiff retentive clay, or a loose friable loam, may, by the admixture in due quantities of certain earths of different qualities, be so modified and adapted to the constitution of the Dahlia, that if the cultivator's system of management in other respects is such as experience has shown to be most suitable, this, in conjunction with the ameliorated properties of the soil, will improve the characters of the flowers to a surprising extent. If we take into consideration the soil in which it is found indigenous, (sandy pasture land), and which is consequently the most congenial to its habits, and compare it with the natural soil of most of the gardens and fields in England, we cannot do otherwise than allow, that the soil of nearly every district in this country is capable of being brought, with very little labour, to approximate in texture and quality, to that which analogy and thirty years' experience have taught to be most favourable to the growth of this plant.

We make the following Extract from under the head Training:-

"Many and various are the systems by which this plant is trained; there is not one of them which can be said to possess the slightest advantage over another, further than that of more efficiently supporting the plants, bringing the flowers better into view, or distributing them more uniformly over a greater extent of surface: for all other purposes, the management of Dahlias, in this respect, depends entirely on the taste of the cultivator; some growing them for the purpose of having a rich display of flowers, others to produce fine individual specimens for competition, and many for the sake of having them trained in a peculiar and fancifully ornamental manner. The most natural and elegant method, and that which is more generally practised, is to train each plant timely and carefully to a single stake. Each stake should be strong, (larch wood is the best), and of at least an inch and a half in diameter, to enable it to sustain the plant during heavy rains and strong rough winds. If the end which is to be driven into the soil be left rather obtuse, it will be less liable to wound the roots, if in its descent it should come in contact with themprevent this, however, it is advisable to put in the stakes at the time of planting. Each stake should be inserted perpendicularly, and as closely as possible to the stem; and to render it secure, it should be driven one foot and a half or two feet beneath the surface of the soil, leaving as much out of the ground as the ascertained height of the plant may be expected to require. As the leading shoot progresses, it should be secured to a stake with bass-matting, observing not to fasten the band tightly round the stem, but to leave sufficient space for it to grow to its natural size. If, however, the weather is such as to endanger the safety of the plant, unless it is firmly secured to the stake while yet in a growing state, it will be necessary to visit the plants once a week, and

change the band, leaving it as slack as shall appear safe and prudent; of course this practice may be discontinued when the plants have obtained their proper size, as it will then be unnecessary. This system of training is almost universally practised where Duhlias are grown for competition; in which case, as soon as the lateral shoots begin to appear, they are carefully slipped or cut off, and the plants are only suffered to retain the uppermost shocts, which then form a bushy and uniform head: by this practice, the flowers produced will be much stronger and finer, as well as more faithful in colour and form. Nor do the operations of the ingenious florist cease here, for he rightly concludes that the fewer the number of flowers the plant has to support, the finer those flowers will be in every respect; and acting upon this theory, the flowers are removed as they appear, leaving only such a number as he expects will obtain sufficient support to enable them fully and perfectly to develope themselves. In adopting these principles, the shoots should invariably be taken off as soon as they appear, and the flowers be plucked while in the bud; for if they are left till they are perfectly formed, the strength of the plant will have been exhausted. and the remaining flowers impoverished to no purpose. It is partly owing to the practice of such methods as this, that some persons usually ensure success when their flowers are brought into competition; but there are many other operations performed on the flowers by Florists and others, before they are considered fit for exhibition."

Under the head Training, Mr. Paxton exposes the trickery and cunning which are practised in preparing the flowers for public exhibition; and afterwards gives what he thinks would be the most effectual means of putting a stop to such nefarious practices, for which we refer our readers to the work itself.

The Gardener's Magazine for May, contains a notice by J. B. W. of Downton Castle, Herefordshire, the residence of Andrew Knight, Esq., many years President of the London Horticultural Society. Downton Castle stands on an elevated situation, on the northern bank of the river Team, and about six miles west of Ludlow. It would appear that Mr. Knight is averse to the introduction of flower beds on the lawns surrounding extensive Mansions like that of Downton Castle. We scarcely know a greater deformity, or one more prevalent, than the numerous clumps and flower beds, which not only surround what are called the private fronts of mansions, but are not unfrequently found on the carriage entrance also; where, at most there ought to be nothing more than a few choice shrubs and trees, either solitary or in groups, and without any dug ground whatever. Few, it is true, would be justified in incurring so large an expenditure in the attainment of this object, as that by which it has been secured at Claremont, in Surrey, at present the property of the King of the Belgians, and we believe the destined residence of the Duchess of Kent. Here the mansion occupies the summit of a slight eminence, surrounded on all sides by a rich and beautiful lawn, decorated only with a few trees and shrubs. This we think infinitely more consistent with elegance and health, than mansions, not a few of which we could name, surrounded on 3 sides by thick shrubberies and dug beds for flowers, crowded close to the living-room windows, and these, by frequent changes of temperature, are subject to exhale a greater quantity of unwholesome gasses than would be the case with a well kept lawn.

We are told, and we dare say most of our readers are aware, that the Kitchen Garden at Downton has been the principal seat of Mr. Knight's experiments. The Garden is said to be small, the hot houses unconnected, and therefore without effect, and the Garden itself encumbered with seedling fruit trees not yet proved. By great attention to the selecting of seed. Mr. K. has succeeded in procuring a variety of cabbage, much hardier than the one known by the name of Knight's cabbage. Brussels sprouts are cultivated on thin soil, with a rocky bottom, and supplied with moisture by irrigation. It is somewhat remarkable that this, one of the very best of the cabbage tribe, should be so little cultivated. As an antidote against curled and blistered leaves in the peach and nectaring tree, Mr. K. when the blossofie attains

the size of hemp seeds, water, holding in solution or suspension a mixture of lime and flowers of sulphur, and soot, is by means of a garden engine thrown on the trees and wall in sufficient quantity to affect the colour of the latter. This has long been practised here with complete success. J. B. W. also mentions, that on one of the walls in this garden, a tree of the Mountaineer Peach, had the finest crop of fruit upon it that he had seen during the season; and that the Nectarine is one of the parents of which it partakes in a greater degree than any other varieties of that fruit; and further, that it is very hardy and apparently well adapted to cold situations.

Mr. Knight considers the Nerii Fig to be the most difficult to cultivate of any of the known varieties, owing to the tendency of the fruit to fall off the trees; but that it is superior to all others in quality. Persian Melons are also caltivated with success, and to prevent "Canker" a disease common to the melon, the plants being grown in tubs, when young are made to grow through a garden pot having the bottom taken out; this preserves the stem from injury during the process of watering. After long experience Mr. Knight's gardener, Mr. Lander, considers the white-fleshed Hoosainee to be the best of all the Persian varieties yet tried at Downton. It would appear that the much disputed theory of growing the Pine Apple, as practised here without the aid of bottom heat, has resulted in their cultivation being entirely given up. Mr. Knight finds sulphur an effectual check to the ravages of red spider.

[Since writing the above, it is with regret that we have to notice the death

of this excellent man and highly scientific Horticulturist.]

Oakley Park, a few miles distant from Downton Castle.—No flattering description is given here of the Mansion which is described so large. The pleasure ground, however, is said to be rather interesting, and may be considered remarkable in containing an oak tree, which is "now a divided and almost a lifeless shell, stretching its naked withered limbs towards heaven, and must have been at least forty feet in circumference when perfect," and therefore upwards of twelve feet in diameter.

Shobdon Court, the residence of Lord Bateman.—This is in the same neighbourhood. Here a portion of the lawn is fenced off for a flower garden and decorated with a great variety of rustic flower baskets, for the cultivation of free flowering plants during summer. Most of these baskets were made under the direction of our friend M1. Mearns, many years gardener at this place, now Curator to the Manchester Zoological Gardens. The erroneous idea somewhat prevalent among grape growers is here very justly deprecated, that grapes keep better through the winter when ripened very late in Autumn. This is often carried so far, that the later crops are kept back till the season has advanced so far as to render it impossible to mature the fruit either in colour or flavour.

Maccas Court, the residence of the late Sir George Cornwall, Bart, is situated on the banks of the river Wye. In the notice of this place, there is nothing deserving of remark, except that J. B. W. says "the principal object of my visit was to see the celebrated Weeping Oak." We should be glad to know something of this tree; and as our friend Mr. Smith, of Garnstone, is in the neighbourhood, he will perhaps oblige us by sending some account of it.

Hendon Rectory, the residence of the Rev. Theodore Williams.—This place is remarkable for its collection of Conifere, and other trees and shrubs cultivated in pots and vases, and dispersed through the flower garden during summer. Such is the high state of keeping maintained here, that although the extent of the garden is only one acre and a half, a head gardener, a foreman, and other assistants are employed. And we can easily suppose that a garden of this extent, when managed in a superior manner as here described, is infinitely more interesting than one of thrice the extent, when cultivated in a common-place way. It is a prevailing, but most erroneous opinion, that the enjoyments derivable from a garden is just in proportion to its magnitude; so far from this being the case, at least in our opinion, we most decidedly believe that it would be conferring at most essential service to the science of gardening, either to lesson by one-half almost every ornamental garden is

the country, or allow double the amount of labour to that usually bestowed on them. In ninety-nine gardens in every hundred, it will be found that their extent is such, compared with the labour allowed for keeping, that the time and attention required for the nicer operations of the art, is almost, if not wholly, absorbed in the manual labour required in keeping in repair the beds, grass, walks, &c. This ought not to be, the pleasure and enjoyment of a garden by no means depends on its extent, but on its high state of culture and keeping.

The following is a list of the Plants cultivated in this interesting spot.

Magnolias 10	Taxodium 4	Pyrus 1
Illicumi 1	Juniperus 8	Cratægus 4
Berberis 2	Brugmansia 1	Rosa 100 sorts
Pittosporum 1	Verbena 1	Calycanthus 1
Camellias 6	Robinia 1	Punica 1
Pavia 4	Kalmia 1	Philadelphus 1
Ilex 22	Petunia 1	Eucalyptus l
Rhamnus 8	Fuchsia 4	Passiflora
Cytisus 4	Myrtus 4	Ribes 3
Halimodendron l	Clematis several	Hammamelis
Photina 1	Acer 1	Azalea 7
Hedera 5	Stuartia 1	Andromeda 2
Viburnum 2	Æsculus 3	Myrsine 1
Aucuba 1	Kolreuteria 1	Syringa 4
Arbutus 8	Vitis	Fraxinus 2
Rhododendron 30	Curtisia 1	Daphne 4
Vaccinium 2	Euonymus 1	Aristolochia l
Bumelia l	Sophora 2	Ficus 1
Laurus 4	Cercis 1	Alnus 1
Buxus 4	Genista	Fagus 2
Quercus 23	Pistacia 1	Liquidamber 1
Olea 2	Ulex 1	Podocarpus 1
Chionanthus I	Edwardsia 2	Ruscus 1
Taxus 2	Gleditschia 1	Dacrydium l
Pinus 38	Gymnocladus 1	Larix 2
Abies 18	Acacia 2	Araucaria 5
Cedrus 2	Cerasus 1	Callitris 1
Thuga 3	Cotoneaster 1	Cupresus 2

A composition design by JAMES PRINGLE, prepared for the Zoological and Botanical Gardens, Leeds.—In the preparation of this plan, Mr. Pringle. has bestowed a good deal of pains, as well as displayed considerable skill. In disposing of the botanical arrangement, Mr. Pringle has recommended that the herbaceous plants should be planted in connection with their respective orders, genera, &c. of trees and shrubs. This is highly scientific, but will require great skill to render such an arrangement at all tolerable in an ornamental point of view. The elevation and front view of the botanical range is very imposing; and we doubt not the effect would be good, but think the propriety of recommending the introduction of a flower-garden in front of so splendid a range of hothouses highly questionable. Our opinion is, that buildings whether designed for the habitation of man or plants, are seldom improved by having in their vicinity large masses of flower-beds; in nine cases in every ten, when the buildings themselves are ornamental, their presence has a deteriorating influence on the general effect, especially in a public garden. Being personally unacquainted with the site and topography of the neighbourhood, it would be unfair to offer any remarks on the adaptation of the plan to this situation. Having had some experience in this way, we would just observe, that to complete the whole of the works as proposed, we should think the estimated sum very much too small.

One of a series of articles on insects, by J. O. Webtwood. F. L. S. Describing several Species of Moth, Destructive to the Apple.—Mr. Westwood, ranks high as an Entomologist. He is a close observer, and his papers are evidently the result of practical observation. He minutely describes the habits, &c., of

several of these subtile depredators, and at the close of his paper alludes to the difficulty of pointing out any remedy by which their numbers can be materially reduced, but recommends the gathering up of the apples as soon as they fall from the tree. This being one of the effects produced by the insects depositing their eggs in the fruit while small, and before the apple has attained maturity, the grub has so injured the internal parts of the fruit, that it drops from the tree, and in the course of one or two days the insect takes leave of its birth-place in search of a more permanent habitation. This it generally obtains in the crinks and rougher parts of the bark of some neighbouring tree, which it generally reaches after an arduous journey of several days; hence will appear the necessity of carefully gathering all "worm eaten" apples as speedily as possible, either before or immediately after they have fallen upon the ground. Neither ought they to be permitted to layafter being gathered, else the end would still be frustrated by the caterpiller escaping. They ought to be instantly bruised so as to kill the insects within, or given to pigs or cattle to be eaten. It is also recommended by Rusticus, an intelligent writer in the Gardener's Magazine, to kindle heaps of weeds, or what we should think would answer equally as well, a little straw and sticks, mixed with the sweepings of low grass from the pleasure ground. The object is to raise a dense smoke without allowing the blaze to escape. This completely routes or kills the insect when in its fly state, being then about the middle of June, when busily engaged depositing its eggs in the young fruit.

Migration.—By wonderful instinct, birds will follow cultivation, and make themselves denizens of new regions. The crossbill has followed the introduction of the apple to England. Glencow, in the Highlands of Scotland, never knew the partridge till its farmers of late years introduced corn into their lands; nor did the sparrow appear in Siberia, until the Russians had made arable the vast wastes of those parts of their dominious.

Will you do me the favour to offer, in any way you please, my apology to "J. F." He considers I "sneered" at his remarks on the Ant and Aphis—it was meant (if a sneer at all) to the so often quoted story of the Ants milking the Aphis. The first author of which is the one I alluded to, and not J. F. I find the remark of Gay, in the "Shepherd and the Philosopher," where the sage replies:—

Pride often guides the author's pen, Books as affected are as men; But he who studies nature's law From certain truths his maxims draw. And those, without our schools, suffice To make mon moral, good, and wise.

Truly applicable to the point in question. I have read Huber, and amidst much deep research, I cannot but consider there is much error. Who can investigate so closely the hidden mysteries of nature, and assign laws and actions to an insect, the greatest portion of whose life is passed far from the sight of man. That the greatest naturalists have committed errors, I have clearly proved, and Huber may have done the same. We have all much indeed to learn; and the date of mortal life is much too short for the great lesson.

F. R.

Sir,—Having been a Subscriber from the commencement of your Magazine, I take the liberty of offering you my opinion unasked,—that if you could give an article or two monthly upon the forcing and general cultivation of Fruits and Vegetables, you would afford instruction and amusement to the major part of your readers, as well as profit to yourself. I should like you to have seen Mr. Fuestone's (of Watlington) seedling Chrysanthemums last Autumn. They were very tine; he has them to dispose of,

Lynn, March 14th, 1838.

Your's respectfully, J. A.



THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

No. XXVI.-JULY, 1838.

ORIGINAL COMMUNICATIONS.

HINTS ON THE CULTURE OF THE CARNATION.

BY AMICUS.

(Continued from Page 10.)

Carnation Seed, -Owing to the generally cold and wet autumnal months, is rather difficult to ripen in this country. It is, therefore, mostly obtained from Vienna and some of the Swiss towns. selecting plants for seed, choose those flowers which have but few petals; which must be large, broad, well-placed, and perfectly entire at the edges, and their colours clear and vivid, and distributed regularly through the whole blossom. When these plants are selected from the others, place their pots upon a stage, in an open part in the garden, in which situation they should remain until the seed is matured; glass, paper, or tin covers, should be so placed over them to defend the flowers from rain, yet not covered so as to obstruct the free circulation of air. They should have a regular supply of water until the seed is ripe, which will be about August, and is readily known by the seed-vessels turning brown, or the seed black; this circumstance must be particularly attended to, for, if gathered too soon, it will prove pale and unproductive. is advisable to draw out the weathered petals as soon as they become dry, or they will be apt to cause mouldiness, by retaining a portion of moisture. When gathered, the seed should remain in the capsule till the time of growing, which is about the middle of May in the following year; it keeps better in the capsule than if

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it were shaken out into a paper. It is then (about the middle of May) to be sown in pots or pans, filled with the compost recommended for potting the plants in, and have a little fine sifted soil laid over them, barely sufficient to cover the seeds; then place the pots in an airy situation in the garden, keeping them moderately moist and shaded from the heat of the sun and dashing rains. As soon as the seedling plants are about three inches high, and have six leaves, plant them out into a bed, consisting of equal parts of good loam and rotten dung, at about twelve inches apart each way, and they must be protected from rain and severe frosts, by hoops and mats placed over them in the usual way; thus treated, they will generally flower the following summer.

Soil best suited for Carnations .- Hogg, in his treatise, recommends three barrows of loam, one and half of garden mould, ten of horse dung, and one of coarse sand; these should be well mixed or thrown together in a heap, and turned two or three times in the course of the winter, and if possible in frosty weather. On a dry day, towards the end of November, take a barrowful of fresh lime, and as soon as it is slacked, strew it over while hot; in turning the heap, this will considerably accelerate the rotting of the fibrous particles of the loam, lighten the soil, and destroy all grubs, worms, and slugs. Many florists, during heavy rains, cover their compost with tarpaulin or mats, to prevent the nutritious particles from being washed out. Hogg, allows the compost to lie at least six months before it is used, and for flowers that are apt to sport, and for yellow picotees, he lowers the compost, and uses the following: -three barrows of good loam, two of rotten cow dung, one of horse dung, a half barrowfull of sand, and a half lime rubbish; this compost must be prepared in the same manner as the preceding.

Pots and Potting.—It is very requisite that the select kinds be grown in pots, which should be twelve inches wide at the top, and ten deep, with a good sized hole at the bottom, and four smaller ones round the sides at the bottom, to prevent the possibility of water being retained in the pots. The best time for potting is the middle or end of March, which may be done in the common way, only taking care to have the earth considerably higher at the edges of the pots than in the centre. In repotting, it is necessary that the plants should neither be planted deeper nor shallower than

they were before, about an inch from the top of the pot, on account of layering, as they will then require additional mould.

General Culture.—When the plants are potted off for bloom, the pots should be placed in an open airy part of the garden, under an arch of hoops, so that they may be protected by some covering, in case of cold drying winds, heavy rains, or frosty nights; but, except in such cases, they should always remain quite open. It is necessary to support the stems with sticks, to which they should be loosely tied; and as the stems are very brittle, this should be particularly attended to. When the stems are about eighteen inches high they should be removed to stages, where they are to remain till they flower.

Insects are very troublesome to the Carnation, particularly earwigs and the green fly. The earwig is the most dangerous of its enemies; it commonly secrets itself in the calyx, and bites off the petals at the lower end, or claw, which causes them to fall out, and consequently disfigure the flower. The best remedy is, to get a large saucer or feeder, place a brick in the centre, then fill up the saucer with water; let the pot then be placed on the brick, and neither the earwig, snail, nor slug, will venture across; or tobacco pipe heads set as traps, on the top of sticks, and by examining them every morning, the number of visitors will soon be found to lessen. The aphis, or green fly, may be destroyed by using a strong infusion of tobacco water, or by sprinkling a small portion of Scotch snuff upon the infested parts early in the morning, while the dew is upon the leaves.

Winter Management.—Towards the end of October, preparation should be made for protecting the plants from frost; the frame, in which they are to be placed, should be fixed in a warm south situation, fully exposed to the sun; it should be raised two bricks at the back, and one at the front, which will give it a good slope towards the sun; then lay, not less than a foot thick of soil, round the outside of the frame, which should be well trodden down, and raised nearly as high as the top of the frame. On the floor where the plants are to stand, lay a good bottom of lime scraps, on the top of which place about six inches of coal ashes. This floor will effectually prevent worms from entering, as well as add much to the warmth and cleanliness of the plants. When the frames are

thus prepared, remove the plants from the arched hoops and place them on the floor of ashes in the frame. Carnations are seldom injured by dry frost, but, it is at all times advisable to protect them from too much of it; when the plants are wet, they must not be covered too close, or they will be directly infested with mildew, which first shows itself in purple spots on the foliage, and is only to be got rid of, or prevented from spreading to the other plants, by cutting off the infected parts, or by entirely removing the plants so diseased. When the weather is not very frosty, a moderate degree of moisture is better for the plants than keeping them quite dry. If, at any time, it should be necessary to have them covered up with mats for several days and nights, and the sun should happen to shine in the middle of the day, do not miss the opportunity, but take the covering off the glass. After wet or foggy weather, the soil in the pots will become green with moss, when it should be carefully stirred up to the depth of half an inch, then sprinkle a little coarse sand upon it, which will be of great service to the plants, and may be repeated as often as is found necessary. Before the potting commences in spring, they will probably require frequent watering. Hogg, top dresses his flowering plants about the middle of June, with about half an inch of rotten horse dung, passed through a sieve, which greatly assists the plants and the growth of the shoots of the layers. He also waters freely while the flower buds are swelling, and during the time they are in flower.

Criterion of a fine Double Carnation.—The stem should be straight and strong, and not less than thirty, nor more than forty-five inches high; the footstalks supporting the flowers should be strong, and of a proportionate length. The flower should not be less than three inches in diameter, consisting of a great number of large well-formed petals, yet not so many as to give it a crowded appearance, nor yet so few as to make it appear thin and empty. The petals should be long, broad, and substantial, easy to expand, and make free flowers; the outer circle of petals turning off gracefully, in a horizontal direction, and strong enough to support the interior petals, which should decrease in size as they approach the centre, and with them the centre should be well filled up; they should be regularly and equally disposed on every side, imbricating

or overlapping each other in such a manner as that both their respective and united beauties may captivate the eye at once; their edges should be perfectly entire, without either notch, fringe, or indenture, and the colour of the flowers, whatever they may be, should be distinct. The centre of the flower should not rise too high above the other parts; but the whole flower should be somewhat flat and even, and perfectly round at the outsides; each petal should have a due proportion of white, which should be perfectly pure, and free from blemishes or spots, that is—of Bizarres, something less than a half; Flakes, one half or nearly so; and Picotees, a little more than one half.

AMICUS.

REPLY TO EPHEBICUS HORTICULTOR.

BY A YOUNG GARDENER.

SIR,—In reading your valuable little work of this month (May) I find a most unnecessary attack (by a candidate for the honours of a reviewer, Ephebicus Horticultor), on the simple truths which I sent you on the cultivation of Salvia Splendens and the Genus Salvia; but extravagant as was his critical remarks I should not have noticed them had he not doubted my veracity, so that I hope I may claim a little room in your pages to refute the charges which he has brought against me. I shall pass over his remarks on my directions as being impracticable, unphilosophical, &c. and come direct to the point where he first shows, the mind well skilled to forge or find a fault. Ephebicus Horticultor says, "here we have two years gone and not a word said about Now, if E. H. will trouble himself to read the flowers." eleventh line of the article he so unjustly criticises, he will find that the plants did produce flowers—aye, and that in little more than one year; and here it may be proper to mention that the "lateral shoots and flowers near the top were only few, compared with the splendid appearance of the plant the year following."

He next condemns my practice on the Genus Salvia, by showing that plants struck in March and potted in April will be quite

large enough to turn out by the time the weather will permit. I have tried his plan, and as the erticle, p. 172, expressly states, they were nothing compared with the plants kept longer in pots.

He now comes to the heights of Salvia, Grahami, angustifolia, and chamædryoides. Now I beg to inform E. H. that these are the names under which I first bought the plants at a public nursery, and most of them bloomed last summer full five feet, and I had not a single plant under three feet; this seems to have particularly struck E. H. as it did several gardeners, who pronounced them the best plants of the kind they had ever seen, and who would now have come forward to prove the truth of my false statements, as E. H. supposes them to be, had not he (E. H.) commenced the system of fighting behind a bush.

As to Salvia involucrata, I tell him that, when carefully managed, it will out of doors open its blooms better and of a richer colour than those sickly looking flowers, half of which falloff ere they expand, that are to be found in many greenhouses.

His next point is on the height of the plants, compared with the size of the beds. Now this is a mere matter of taste. Would E. H. expel from the flower garden all those fine varieties of Dahlia and Hollyhock, which grow above five feet in height, though they may be planted therein, and that with very good effect, even upon not very large beds, especially where the grounds form an inclined plane. Yea, I have had a bed of Verbascum gigantium from ten to twelve feet in height and upwards upon a bed of 36 square feet, and that too with very excellent effect.

He next cautions me in future, when writing for the public, to bear in mind that the improvement I seek to disseminate will depend on the simplicity of the plans and their general usefulness. Now, Mr. Editor, in his directions for the cultivation of Salvia Splendens, does he not fall into the self same sin of which he accuses me? For by the plan which I endeavoured to explain, any person possessing a vinery or plant stove may grow it to a state of very high perfection; while not one in a hundred who cultivates this plant can follow his directions: for who, I ask, (except in private establishments) will keep a house for a whole season at 70. with an atmosphere saturated with moisture on purpose for Salvia Splendens.

Having fairly, as I consider, met the remarks of Ephebicus Horticultor, I beg to inform him that I shall not notice any other papers from him on the same subject, believing it can lead to no beneficial result.

A YOUNG GARDENER.

North Yorkshire, May 14, 1838.

ON THE ADVANTAGES OF GRAFTING PLASTER.

BY E. F.

SIR,-You expressed a desire that I would state the particular advantages which Forbes's Grafting Plaster appears to possess over the clay generally used for this purpose. First, I would say in confirmation of what he has himself stated on the subject, that its superiority is the most evident, in not being liable to crack by draught, nor yet fall off by heavy rains, as is the case with the clay. The plaster is not affected by either of these causes, and it may be so applied as to effectually protect from wet the tender and wounded part of the graft, a circumstance of no small importance in the art of grafting, at least with respect to many kinds of trees. In the case of sudden and heavy rains, it is no uncommon thing to have the whole of the day's claying washed off in the course of a few hours; but with the plaster this will never be the case. And, again, its advantages in the grafting of tall slender plants are very great, owing to its lightness, as any slender twig may be grafted without the necessity of staking; this cannot be done with clay by using the usual quantity, owing to its weight. And, besides, in extensive practice, much time would be saved, and the operation of grafting greatly simplified; the scion requiring only to be adjusted to the stock, and wrapped round with a shred of cotton covered with the plaster; thus the rude and uncertain process of claying becomes altogether unnecessary.

I also send you the following remarks with the view to induce more attention to the oak, as a timber tree, believing it to be a subject of national importance. I know not, however, whether you may deem an article on this subject suitable to the pages of the Floricultural Magazine; but this is of course more your business than mine.

Of all British forest trees, the Oak is, undoubtedly, the most valuable, for the strength and durability of its timber, its general usefulness, magnitude, and appearance, in an ornamental point of view; yet, with all these claims to our attention, the majority of planters much more frequently plant Larch or some other quicker growing tree than the Oak, and consequently, in this country, every future half century will prove the supply to be more scanty that that which preceded it. To grow the Oak profitably, the ground ought to be trenched two feet deep, and ought to be raised from the acorn in the spot in which it is destined to live and grow to maturity. The acorns should be planted six inches in depth and fourteen feet apart each way, and the vacant portions of ground filled up with softwood of any kind, but great attention must be paid to the proper thinning, in order to give the full advantage to the Oak. E. F.

NOTES MADE DURING A GARDENING TOUR.

BY THE EDITOR.

(Continued from Page 7.)

Lord Farinbrough's, Bromley Hill, Kent,

The gardens and pleasure grounds here are extensive. In the pleasure grounds there are several successful attempts at the French style of forming parterres and gardens: the figures forming the beds being defined by box-edging, and in a very high state of keeping. With equal accuracy of execution, elegant scrobles of various shapes are introduced along the margins of the walks; also roses, with their foliage and stems, so correctly represented as to be at once recognised; the beds themselves being also occupied with roses. Most persons professing to possess good taste in the art of gardening, disapprove of this style; and this is more especially the case with those who adopt opinions rather than form them on their own judgment and from reflection. In very many instances the standard of taste is exceedingly arbitrary, and, perhaps, in nothing so much so as in matters of this kind. Whether in bad taste or otherwise, French and Italian gardens, when neatly executed and highly kept, are objects that seldom fail to

please. The scenery here, in many points of view, is rich. From the front of an Italian summer-house, the river Ravensburn is seen winding along the fertile valley, and a few hundred yards from the west front of the mansion stands an oak tree, famous as the favourite resort of the late Mr. Pitt, Farinbro' being then in his possession. Joining the house and fronting to the west, is a greenhouse conservatory, occupied with orange trees, at one end of which is a retiring room, fitted up with seats and a variety of Porcelain China, and other vases of large dimensions, and of the most costly kind. Many of the finest of the orange trees were the property of Mr. Pitt, and then kept at Allwood House, in the same county.

Chandler's Nursery, Vauxhall Road.

In a greenhouse appropriated to the growth of Rhododendrons, Azalias, and Camellias, were a great number of large plants of the former in full flower, especially the variety Smithiana, one of the gayest, and certainly one of the most profuse bloomers of this very ornamental family. The flowers are of a dark rose colour, mottled with darker spots. Small plants may be purchased at about half a guinea. Amongst the Camellias we noticed a single variety, with white ground, striped with rose colour, named Bellii; small plants were valued at two guineas. Others, said to be new, and pointed out as such; we noticed also C. Spaforthiana, in habit, shape, and colour of the flower, resembling C. Pæniflora; an unnamed seedling approaching to C. Althæstora. Mr. Chandler finds his Camellias succeed the best when shifted in autumn, and at this season the whole of his extensive collection is examined, and those requiring it are shifted into larger pots. The compost which he uses is one part of peat, and three of loam.

Buchannan and Co.'s Nursery.

We noticed among various other interesting and valuable plants Kennedia dilatata, valued at ten shillings and sixpence; and Podolobium Staurophylla, at twenty shillings. Of the very neat and pretty New Holland plant, Borronia Serrulata, we have seldom seen so large a stock.

J. Knight's Nursery, King's Road, Chelsea.

Mr. Knight's collection is not only the most extensive, but vox, III.



contains a very great number of the newer kinds of plants. In the large conservatory we noticed a very interesting variety of hybrid Rhododendron, with white flowers. The old plants of R. Arboria, six or seven in number, and averaging from eighteen to twenty feet in height, have this season missed flowering. During the previous year they had been shifted into larger tubs, and it is thought this had given them such a check as to prevent their blooming. In one of the stoves we observed a very handsome undescribed species of Gesneria, in appearance resembling G. Cooperi. The pedicles of the flower stalks were, however, quite pendulous. A greenhouse plant, Scottia species, new, with leaves smaller than S. dentata, Oxilobium ellipticum, valued at five guineas, Kennedia glabrima, ten and sixpence; all new and choice plants. The first time for the last ten years we were again gratified by seeing a live plant of Thumbergia Hawtayneana. This is said to be a truly splendid plant; it is a native of Nepal. About the year 1828, Dr. Wallick transmitted seeds of this Thumbergia from the Botanic Gardens, at Calcutta, to the late Mrs. Beaumont, of Bretton Hall. From these seeds a solitary plant was raised, and after cultivating it successfully for nearly two years, it was planted in the open border of the large dome conservatory, then recently erected for the culture of tropical plants; here it only existed for a short time, and was lost to the country. We are not aware that it is in any other collection except in that to which we now refer. Like the other members of this ornamental genus it is a climber, but unlike them in its thick rigid smooth and shining foliage. The base of the stems and roots are thick and fleshy. It is by no means a tender or difficult plant to cultivate, Mr. Knight had, a short time previous to our visit, imported about 150 tubers of Tropœolum from Brazil. Some of the tubers were square.

Mr. Young's Nursery, Epsom.

Here there are also many new and rare things. The following are some of those we remarked as deserving of notice:—Clematis Sieboldii, small plants, offered at 15s. each; Grevillea species, a very neat plant and of a very slender habit; a species of Genista, with white flowers, in habit and appearance like G. Monosperma; Kennedia Glabrima, offered at 3s. 6d.; four or five kinds of

Clematis, said to be new, and introduced by Siebold. As a hardy greenhouse plant we observed Cassia biglandulosa, an exceedingly neat and pretty plant; Lilium longifolium, valued at two guineas; L. Album var. punctatum speciosum, of Dr. Lindley; L. Aurantiacum, and L. Atrosanguincum; about five guineas each, except the latter, which may be purchased at 10s. 6d. per plant. are very splendid and scarce plants, orginally imported from Japan. The only supply at present is from the continent, and there they are also rare; so that they will, in all probability, be scarce plants for several years to come. Mr. Young takes the credit of sending out the stock of Kennedia splendens, a handsome climber, now getting pretty well known. Aralia japonica, Mr. Young says is quite hardy—probably doubtful; it is a splendid plant, with large pinnated frond-like leaves. Hovia panosa. a greenhouse plant, offered at two guineas. Bogardia Ranwolfia, very scarce: Mr. Young says there are only two in England, nor from its appearance would it appear likely to be speedily increased. It is a bulbous plant, with foliage, resembling those of the genus Fumaria. In the open ground were plants of Mahonia ripens, acquifolia and glumacea, that had stood there throughout the winter without any protection whatever, and were then quite fresh, the points of the foliage scarcely injured. Here and in this neighbourhood the frost appears to have made sad havoc amongst the evergreens of all kinds; even the common furze on the waste lands is in many places killed to the ground.

EDITOR.

THE SEVERE PROST OF THE LATE WINTER—ITS EFFECTS ON SUNDRY PLANTS AT THE HIRSAL.

BY GEO. SMITH, GARDENER TO EARL HOME.

According to promise I send you an account of the damage done to the plants at this place, by the frost, during the late severe winter. I would have done so sooner, but, till now, it has been impossible to ascertain whether many of them might not spring from the roots, although in appearance dead—and many are beginning to spring; that about a month ago I thought completely killed.

Cleanthus puneceus, Benthamia Fragisera, Escallonia rubra, Cistus formosa, were on a south wall, covered with spruce branches, and are completely killed; the following had no covering, Anagyris nephalensis, not hurt; Ribes speciosa, not hurt; Westeria consequina, quite hardy, Maurandia Barcklyana, killed; Daphne hybrida, killed; Rosa banksia, yellow, Do. White do., killed to the ground; all the tops of the common Chinese roses are quite destroyed, but are springing vigorously from the bottom; Rose yellow noisette, Marie Louise, Maria Leonida, Macartney, Pœoneflora, Bursolts, do., white resplendent, have all stood hardy. Amongst the roses, of which we have a large collection, many have been killed to the ground, but are springing from the bottom. All the Laurustenus, Sweet Bays, Arbutuses, Phillyreas, Alaternue, Myrtus, Cedar of Goa, are completely killed to the ground; many of the common Laurels are also killed; Magnolia grandiflora, planted on a south wall, has stood quite hardy; one specimen of Sweet Bay, which had stood about forty years, is completely killed. In this neighbourhood every vestige of Furze and Broom is killed to the ground.

GEO. SMITH.

5th May, 1838.

ON THE CULTIVATION OF BLETIA TANKERVILLIAS. BY THE EDITOR.

As an ornamental stove plant, the Bletia Tankervilliæ stand prominent, and the fact that it is found in almost all stoves, whatever their pretensions, is an acknowledgment of its merits. Notwithstanding the many hundreds of showy hybrids and other plants which are annually introduced into this country, the Bletia has outlived many gay productions; and will continue to be admired when thousands of new creations, the fugitive beauties of which flutter only for the day, have speedily passed away and scarcely left a trace of their existence behind. The Bletia has been cultivated in this country since 1776, and was flowered for the first time in England at Apperly Bridge, near Bradford, in Yorkshire, to which place it was imported from China, by Dr. Fothergill.

The Bletia is cultivated in almost all stove collections, although it but seldom attains that magnitude and beauty, of which under good management, it is so fully capable of displaying With us this old plant is somewhat a favourite, a circumstance which will perhaps best account for the degree of success which has attended its cultivation. The plan by which it has been found



to arrive at a very high degree of perfection and beauty, is the following: - About the middle of April the flowers begin to decay; the roots of the large plants are divided into three or four bulbs, these are then potted into pots suitable to contain the roots with a small portion of earth; in this they remain until the roots have become sufficiently numerous to again require shifting into larger pots. This process is continued from time to time as the plants require it. The latter being generally made to bloom in sizes varying from nine to fourteen inches in diameter. The compost in which they succeed the best, is a mixture of about two-thirds turfy peat earth, containing a large quantity of strong heath roots, with one-third part of loam sand and decayed manure. In compost thus prepared, they attained, during the past season, very great luxuriance. One plant, of which the accompanying sketch is a representation, produced six flower stems, some being upwards of four feet in height. The roots of the Bletia, when in a growing state, require to be kept very moist; they are, however, exceedingly impatient of over watering, and are never found to thrive when the earth in the pot is kept so wet as to cause them to rot and decay; and this is a very common error, to obviate which it requires the greatest care and attention in watering.

CALCEOLARIA KILLIANA AS AN HARDY HERBACEOUS PLANT.

It is not generally known that Calceolaria Killiana is so thoroughly hardy, as to have endured with impunity the intense frost of our late severe winter; this is, however, the case. I have seen plants of it in various gardens, and in very different situations, yet all equally uninjured. My object is, therefore, to draw attention to this fact, with the view of bringing this, one of the choicest of nature's productions, into notice. As an herbaceous plant it is unsurpassed in the profusion and beauty of its little spotted blooms. It is admirably adapted for Rockwork, or for the forming of hedges round the margins of flower-beds. In the course of my journeying, I have observed several other plants, formerly considered tender, that have also escaped unhart, even where the Thermometer had indicated 30° of frost; but these I may remark upon at some future time:



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REFERENCE TO PLATE XXIX.

ANDROMEDA HYPNOIDES (Fig. 1) and A. TETRAGONA (Fig. 5).

MAT. ORD. BRIAGEM. CLASS DECAMURIA MONOGYNIA.

For the opportunity of presenting our readers with figures of these curious and beautiful little plants, we are indebted to our Friend and neighbour, Mr. Cooper, of Wentworth House. Although neither are new plants, there are few, if any, that present greater claims to our attention. They are such as may be cultivated by all who devote a part of their leisure time to amusements of this kind. As natives of the frigid climate of Lapland, they bear with impunity the severest winters in any part of Great Britain, and their diminutive stature is equally favourable where the space is limited. In height they seldom attain to more than six inches, and when fully established in an open, but rather shady situation, nothing can be more beautiful during the months of March and April, than these tiny shrubs, covered with their neat and pretty bell shaped flowers. This genus is named in allusion to the virgin Andromeda, the beautiful daughter of the Ethiopian King, Cepheus. The mother having boasted that, in beauty, her daughter surpassed the Nereides, if not Juno herself, the offended Goddess called on her father to avenge the insult; he, accordingly, inundated the territory of Cepheus, and also sent a sea monster, which threatened universal destruction. The name is thought to be applicable on account of the great beauty of the genus, and of their being generally found in wet situations. On this subject, Linnæus says, "I could not help thinking of Andromeda, as described by the poets, and the more I meditate on their descriptions, the more applicable they seem to be to the little plant before me, so that if these writers had had it in view, they could not have contrived a more apposite fable." It has been observed by a celebrated writer that, in reference to Natural History, many young persons misunderstand the use of books. It is not, however, from the world of books, that joys like those which Linnaus describes are to be experienced. Close and attentive observation of natural objects, however simple in themselves, can alone affect the mind with lasting and pleasurable associations; and Linnæus has kimself furnished an admirable illustration of this fact in speaking of Andromeda tetragons. He says, "I met with this plant but once, and that throughout a journey of four hours over the celebrated mountains of Wallivari, in the district of Luba, towards a tract of country which lies about half way between the Northern and Southern parts, where it grew in great abundance. Whilst I was walking quickly along, in a profuse perspiration, facing the cold wind at midnight, (if I may call it midnight, when the sun was shining without setting at all), still anxiously enquiring of my interpreter how near we were to a Lapland dwelling, which I had for two hours been anxiously expecting, though I knew not its precise situation, casting my eager eyes around me in all directions, I perceived as it were, the shadow of this plant, but did not stop to examine it, taking it for the Empetrium. After going a few steps further, the idea of its being something I was unacquainted with, came across my mind, and I turned back, when again I should have taken it for the Empetrium, had not its greater height caused me to consider it with more attention. I know not what it is that so deceives the sight in our Alps during the night, as to render objects far less distinct than in the middle of the day, though the sun shines equally bright. The sun being near the horizon spreads its rays in such a horizontal direction, that we can scarcely protect our eyes, besides the shadows of plants are so infinitely extended, and so confounded with each other from the tremulous agitation caused by the blustering wind, that objects very different in themselves are scarcely to be distinguished from each other. Having gathered one of these plants, I looked about and found several more in the neighbourhood, all on the north side, where they grew in plenty; but I never met with the same in any other place afterwards, as at this time they had lost their flowers, and were ripening seed. It was not till after I had sought for a very long time, that I met with a single flower, which was white, shaped like a lily of the valley, but with five sharper divisions." To those who, like the immortal Linnseus, are accustomed to see all things in the multitude of their relations, the bare mention of this flower would recall the whole scenery of the Lapland Alps, the "disastrous twilight," its midnight sun, and the long lines of shadows trembling across its glittering snows.

LOASA AURANTIACA, Red-flowered Loasu.

LOASA LATERITIA of Sir Wm. Hooker, in Bot. Mag.

This interesting plant was discovered in Tucuman, by Mr. Tweedie, by whom seeds were sent to the Glasgow Botanical Gerdens, from these plants were raised 1836. It has since been distributed to the principal gardens throughout the country, but is still a scarce plant. It is regarded as an annual, or, at most, a biennial, and may be grown to the greatest advantage as a stove climber. It will also succeed in the open air, on a south wall, in a sheltered situation. In this garden we have it in both situations, but hitherto the weather has been so unfavourable, as to afford it no opportunity of thriving in the latter situation. This plant, like the rest of the genus, is covered throughout with small stinging hairs, which are more active and powerful than the stings of the common nettle, Urtica dioica.

The plant produces seed freely, and by this means may be extensively

increased.

CLINTONIA PULCHILLA, Pretty Clintonia.

NAT. ORD. LOBELIACEE. CL\SS MONODELPHIA PENTANDRIA.

This is an exceedingly pretty little plant, in habit and appearance much like a lobelia. It is a native of California, and from thence was introduced to the gardens of the London Horticultural Society. It is a delicate and tender little annual, and succeeds best in shallow pots or pans, in damp shady situations in the greenhouse. Except in very warm and sheltered situations, it does but little good in the open air.

AZALIA INDICA, VAR. SPLENDENS (Fig. 4).

NAT. ORD. BODORACEÆ. CLASS PENTANDRIA MONOGYNIA.

For the opportunity of figuring this, the most beautiful variety of this highly-ornamental genus, we are obliged to Mr. Low, of the Clapton Nursery, London. It flowered, for the first time in this country, during the present spring, at Harringhy House, near London; it has been imported from Belgium.

NOTICES OF NEW PLANTS.

DELPHINIUM LAXIFLORUM, Loose-flowered Larkspur.

Bot. Reg.

NAT. ORD. RANUNCULACEÆ. CLASS POLYANDRIA TRIGYNIA.

This is an hardy perennial, growing to the height of four or five feet, and is, therefore, although ornamental, too coarse in habit to be introduced into the more polished parts of the flower garden; perhaps it is best adapted for shrubberies. The flowers are of a light agains blue.

DIANTHUS BISIGNANI, Prince Bisignano, Tree-pink.

| Bot. Reg.

NAT. ORD. SILENACEÆ. CLASS DICANDRIA TRIGYNIA

This is a very beautiful and desirable plant. It is a native of the coasts of Calabria and Sicily, and was received by Dr. Lindley, in September last, from the garden of the Hon. W. F. Strangways, at Abbotsbury, accompanied with the following note:—This Dianthus is allied to D. fruitosa, Fl. Græca, from which it differs in its sharper leaves, and more imbricated calyx. Unlike most maratime plants, it is less glaucus in its wild state than in cultivation. It is common on rocks about Palerme, with Silene fruitosa. It is not easily raised from seed, and requires to be kept in the greenhouse. The leaves are long, eval, lanceolate, and fleshy; the flowers are of a rose colour.

LUPINUS ARBOREUS, Tree Lupine.

NAT. ORD. FABACEÆ OR LEGUMINOSÆ Ş PAPILIONACEÆ. CLASS DIODEL-PHIA DECANDRIA.

This is an old inhabitant of our gardens, but far less generally cultivated than its beauty deserves. It is half shrubby, and in good soil will attain the height of from ten to twelve feet. There are several varieties in cultivation under this name, but the one from which the figure has been taken is said to be the handsomest, and was raised by the Earl of Mountmorris, from seeds obtained from California. The flowers are yellow.

ECHINOCACTUS EYRIESII VAR. GLAUCUS, Glaucus Sweet-scented Porcupine Cactus.

This is a small apple shaped Cactus, with tall whitish green flowers. It would appear not to have been noticed by any of the continental writers on Cactaceæ. It is probable the characters by which it is here distinguished as a variety, are the result of cultivation or accident. In a note appended to the notice of this plant on the cultivation of the genus, it is said, "this variety seldom throws out young shoots, and consequently does not increase rapidly; but if young plants are of more value than large specimens, it may be cut across, and the top grafted or struck when the under part will send out young shoots."

HELICHRYSUM SCORPIOIDES.

Bot. Reg.

NAT. ORD. COMPOSITE E. CLASS SYNGENESIA SUPERFLUA.

This is said to be a remarkably handsome everlasting flower, with yellow blooms. The seeds were imported by R. Mangles, Esq., who presented it to the gardens of the London Horticultural Society.

GESNERIA FACIALIS, Gaping-flowered Gesneria.

Bot. Mag.

NAT. ORD. GESNERACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

This is a very handsome species, with orange coloured, large, and gaping flowers. This beautiful plant was discovered in the neighbourhood of Rio Janeiro, by Mr. Gardener. It produced its blossoms in the stoves of the Glasgow Botanic Gardens, in July, 1837.

EPACRIS MICROPHYLLA, Small-leaved Epacris.

Bot. Mag.

NAT. ORD. EPACRIDEÆ. CLASS PENTANDRIA MONOGYAIA.

This is a handsome little plant, perhaps less showy than many of its compeers; but even the least handsome of this elegant genus deserves the attention of the cultivator. The foliage is remarkably small, and the flowers are white, forming long dense spikes towards the extremity of the shoots. It was received at the Edinburgh Botanical Gardens from Mr. Westland's Nursery, near Dorkin, in Surrey, where a large stock of scarce plants, and Epacrides in particular, are cultivated with very remarkable success. Its season of flowering is May.

VOL. III.

NEMOPHILA ATOMARA, Speckled Nemophila.

Paxion's Mag.

NAT. ORD. HYDROPHYLLEÆ. CLASS PENTANDRIA MONOGYNIA.

Most of our readers are, ere this, acquainted with the beautiful blue-flowered annual N. insignis; and although N. Atomara is less attractive and showy, it is nevertheless deserving of cultivation. The flowers are small, white, and prettily marked with dark spots.

PHAIUS ALBUS, White Phaius.

NAT. ORD. ORCHIDACEÆ & EPIDENDREÆ. CLASS GYNANDRIA MONANDRIA.

This handsome species was found by Dr. Wallich, on Mount Chandaghiry, in Nepal, growing on the trunks of trees. The species in question is said to rank among the most showy of the order; and P. bicolor, a native of Ceylon, with yellow and pink flowers, the finest of all, is yet to introduce. In a young state this plant is remarkable for its light blue appearance, and the broad amplexical scale-like leaves, which appear upon the stem when it first begins to grow. Flowered in the collection of Messrs. Loddiges, Hackney, in July last, 1837.

BRASSIVOLA ANGUSTATA.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ & EPIDENDREÆ. CLASS GYNANDRIA MONANDRIA.

This is another pretty species of Orchidez, imported from Demerara, by Mr. Wilmore, of Oldford, Birmingham. The flowers are of a pale yellowish green, with narrow fringed white lips.

ACANTHOPHIPPIUM STRIATUM.

Bet. Reg.

This is a native of Nepal, with pale French white flowers, and dull longitudinal stripes, not handsome; sent from her Majesty's Gardens, at Kew, to Mr. Bateman, of Knipersley Hall.

STELIS TRISTYLA.

[Reg.

This has been imported from Brazil by Mèssrs. Loddiges. One of the largest of the genus, but not remarkable for its beauty.

PLEUROTHALLIS MARGINATA.

Reg.

A small species, with the habit of Grobyi, and of little or no beauty.

PLEURATHALLIS APHTHOSA.

[Reg.

A native of Mexico, sent from the Birmingham Botanical Garden, to Jas. Bateman, Esq.; a plant of little beauty.

BLETIA SHEPHERDII of Bot. Mag. t. 3819.

Reg.

Dr. Lindley says: This plant has lately flowered in the garden of the Horticultural Society, and he finds it is only a dark flowered variety of Bletia verecunda, and does not appear distinguishable by any character of importance.

MAXELLARIA MEDIDA.

This is one of the least showy of the large genus to which it belongs.

CŒLOGYNE PROLIFERA.

Bot. Reg.

This is one of the numerous additions recently added to the extensive collection at Chatsworth. It was brought from the East Indies by Mr. Gibson. The flowers are not showy, being of a brownish yellow or green colour.

EPIDENDRUM EQUITANS.

Bot. Reg.

This resembles the genus Ternandezia; it is, however, a genuine Epidendrum, with chocolate brown flowers.

GUNNIA PICTA.

[Reg.

Received by Messrs. Loddiges from the neighbourhood of Sydney. Its flowers are small and of a dingy colour.

EPIDENDRUM TRIDACTYLUM.

[Reg.

Native of Brazil; the smallest flowered species of the genus.

EPIDENDRUM CAULIFLORUM.

Reg.

A native of Rio Janeiro, with flowers about the size of those of E. nutans and of a pale straw colour.

CATTLEYA HUMILA, Dwarf Cattleya.

Bot. Mag.

This is a small species, with showy purple and rose coloured flowers. The small size of this plant, the minute rounded pseudo bulbs, and the narrow leaves, together with the obtuse, short, and almost fimbriated lip, will, clearly distinguish this very beautiful species of Cattleya from those hitherto described. It is a native of Essequibo, from whence it was received by John Allcard, Esq. in whose collection it flowered during the summer of 1837.

GOVENIA GARDENERI. Mr. Gardener's Brazilian Govenia.

This is an upright plant with broad lanceolate foliage, sheathing at the base and for some distance up the stem. The flowers consist of a small nodding spike, and are of a pale white colour, not showy. It is a native of Mexico, where it has been recently discovered by Mr. Gardener.

PHYCELLA BIFLORA, Two-flowered Phycella.

Bot. Reg.

NAT. ORD. AMARYLLIDE ... CLASS HEXANDRIA MONOGYNIA.

On the 17th April a plant of this splendid bulb was exhibited at a meeting of the Horticultural Society, Regent street, for which Mr. Toward, gardener to her Royal Highness the Duchess of Gloucester, at Bagshot, received a medal. Of this plant Dr. Linley says, "None of the species of this charming genus that I have yet seen are to be compared with it for beauty. The flowers are fully two inches long, with an expansion as much; their tube is a clear bright greenish yellow, while their upper end is of the most vivid scarlet just tinged with purple."

FUNCKIA ALBO-MARGINATA, Variegated Funckia.

| Bot. Mag.

NAT. ORD. HEMEROCALLIDE ... CLASS HEXANDRIA MONOGYNIA.

The foliage has long somewhat slender footstalks, shortly oblong lanecolate, with a silvery margin. The flowers are thinly scattered on an upright slender stem. McCoy, of Belgium, sent it along with F. sieboldiana; both are supposed to be natives of Japan, and to have been introduced from thence by M. Siebold. It flowers in July, and has been treated as a greenhouse plant.

ELISENA LONGIPETALA, Long petaled Elisena.

NAT. ORD. AMARYLLIDEÆ. CLASS HEXANDRIA MONOGYNIA.

This is a native of Lima, and was introduced from thence by Richard Harrison, of Arburgh, near Liverpool, in whose stove it blossomed in May of the present year. It is a bulbous plant, said to be exceedingly beautiful, and nearly related to pancratium ringens of the flora Peruviana.

BULBINE SUAVIS.

Bot. Reg.

NAT. ORD. ASPHODELEE. CLASS HEXANDRIA MONOGYNIA.

Discovered in New South Wales by Major Mitchell, Surveyor General, then stationed in that country. The flowers are yellow, and arranged on a long raceine. They are likewise highly fragrant, resembling that of Mignionette. The scope or flower stem is between two and three feet high. Its flowers were produced in the garden of the London Horticultural Society in May, 1838.

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BROMELIA DISCOLOR, Two coloured Bromelia.

Bot. Reg.

. NAT. ORD. BROMELIACER. CLASS. HEXANDRIA.

A native of South America, and flowered in the possession of Miss Garnier, of Wickham, near Southampton; it has sessill heads of spiny dull pink flowers; by no means handsome.

MISCELLANIES.

A regret has sometimes been expressed at the production of hybrid plants, because they introduce a certain degree of confusion and difficulty into our technical descriptions and systematic arrangements. But surely the searcher after truth, the philosophical investigator of the works of nature, must greatly rejoice at every fresh and striking result, (however embarrassing for the moment), which has been obtained by the judicious application of a direct experiment. The more our experiments are multiplied, and the more precautions we take in securing the accuracy of our results, the greater will be our chance of detecting those physiological laws which regulate the variations and restrictions in forms in different species. One remarkable result observable in the production of hybrid plants is, the uniform manner in which several of them refuse to perfect their seed; and if this character were constant in them all, we should possess an excellent law for distinguishing hybrids from true species. But it is now asserted that many hybrids do perfect their seeds; still an obvious question presents itself, whether we ought not always to consider the parents of such hybrids really to belong to the same species, however dissimilar they may be in external form, whilst the parents of those which do not perfect their seed should be considered distinct. The evidence which has hitherto been adduced militates strongly against the existence of any such law; though we may hardly allow it to be sufficiently complete and definite to have completely settled the question. Besides, the existence of certain hybrids which never produce ripe seeds, and of others which readily produce them, there are some which occasionally, but rarely, do so; and such we find to be the case with the present plants. Professor Henslow examined a great many of its ovaries in the Bury Gardens, last summer, 1837, in all of which the ovules were abortive, and Mr. Hodson informed him at the time, that no perfect seeds had been produced; but since then we have heard from Mr. Turner, (the Gardener in that establishment), that "a few good seeds" have been produced. We shall be anxious to learn whether plants have been raised from these, and if so, what are the forms which they assume. May we not ask whether those hybrids which refuse to perfect their seeds in one climate, and under the combination of circumstances to which they are now subjected in the present state of the earth's surface, might not in another climate, and under another combination of circumstances than that at present existing, be rendered productive, and thus be enabled to assume the character of true species. If so, fresh light may be thrown upon the remarkable fact with which geology has made us acquainted of a succession of perfectly distinct races of animals and vegetables at different epochs of the world's existence, each adapted to some peculiar condition of our planet. Such a succession of differences seems to require us to admit that there must either have been a succession of fresh creation, or else such a marked transition between the forms of existing species and those of the offspring, that we are unable to recognise them any longer as specifically indentical. These speculations are fraught with the deepest interest; they serve to impress us with some notions of the infinite distance at which the human understanding lays behind the perceptions of the Divine wisdom; and to humble any

petty conceit that we might be inclined to entertain of our own limited powers. If there is a certain difficulty, even in preparing a mere technical description of the works of creation, as they may be seen and handled by us, how much greater must be those difficulties which we have to surmount, when we seek to inquire into those laws by which the past has been altered into the present state of things; and to trace the means by which organic beings have been framed, altered, and adapted, to the several changes to which the earth has been exposed. Here we are trenching upon those paths of wisdom which possibly we shall never in this life be able to penetrate to any great extent; and of which we must remain content to believe that "God alone understandeth the way thereof, and he knoweth the place thereof, for he looketh to the ends of the earth, and seeth under the whole heavens." Job, 28th chap. 23d verse.—The Botanist.

HYBRID INTERMIXTURE.-It remains th to be ascertained whether there did exist a real natural, and indefeasible difference between plants which could produce a fertile, and those which could produce a sterile offspring, by blending their races. It was my opinion, that fertility depended much upon circumstances, of climate, soil, and situation, and that there did not exist any decided line of absolute sterility in hybrid vegatables; though from reasons which I did not pretend to be able to develope, but undoubtedly depending upon certain affinities either of structure or constitution, there was a greater disposition Subsequent experiments have confirmed to fertility in some than in others. this view to such a degree, as to make it almost certain that the fertility of the hybrid or mixed off spring depends more upon the constitution than the closer botanical affinities of the parents. The most striking and unanswerable proof of this fact was offered by the genus Crinum, which is spread round the whole belt of the globe, within the tropics, and within a certain distance from them, under a greater variety of circumstances affecting the constitution of individuals which nevertheless readily intermix when brought together by human agency. The plant called Crinum capense, (formerly Amaryllis longifoli,) impregnated by either Crinum zeylanicum, or scabrum, both at that time also called Amaryllis, produced offspring, which during sixteen years proved sterile, probably because notwithstanding their botanical affinity, the first is an extra tropical aquatic plant, and the two latter tropical plants which affect drier habitations, and readily rot, at least in this climate, in a wet situation. The same C. Capense, impregnated by Crinum predunculatum, canaliculatum, or defixum, produces a fertile cross, though they are so dissimilar as to have been placed in different genera; and the author was formerly reproved by botanists, as having committed an absurdity, when he insisted upon uniting them. The reason of the fertility of their joint produce, seems to be that they are all aquatic or swamp plants; and it may be further observed, that the crosses with the two former, the plants being all extra-tropical, are much more fertile than that between C. Capense and defixum, because the latter is a tropical plant. The mules Scabrum and Capense having continued so many years with every appearance of absolute sterility, without any change of situation or treatment, at last produced one good seed in 1834, and another in 1835. These facts were of such an overbearing nature, that it became impossible for those who had charged the author with absurdity for uniting the parents under the genus Crinum, to which even certain other plants were then asserted to be more nearly allied, than the species at that time called Amaryllis, to contend any longer that they producing a fertile offspring were of different genera, and they will probably be never again disunited in any botanical work; but the facts furnish much ground for the serious consideration of men of science. It happens as if expressly designed to overthrow the theory, that the identity of species is proved by fertility or sterility in the mixed issue; that, while C. Capense zeylanicum and Scabrum are very similar in their general appearance, and yield an offspring which has been found quite s'erile, except in the case of the two seeds above mentioned, C. Capense and Pedunculatum, are as unlike, as perhaps any two species of any known genus; and if it were asserted that C. Capeuse and Pedunculatum are one species, and C. Capeuse and Scalrum two species, the assertion would appear to any person looking at the plants, too preposterous to require a serious answer.—Herbert on Cromes, and Hybrid's Intermixture.

The Aloe, that patriarch of the flowers which "blooms once in a hundred years, and whose blossoms then are developed with such rapidity as to occasion an explosion resembling the firing of a cannon," is the theme of a tale that all have heard from their infancy, and to which many still give credence. In regard to the age at which the plants flower, that is extremely uncertain, and depends much upon the health and vigour of the individuals, and the degree of heat to which they have been exposed. Many live to a great age, and appear never to flower at all. In warm climates, twenty five or thirty years, and probably a much shorter period, is sufficient to bring them to perfection.

Although various instances are on record of this plant having blossomed, when confined in a pot or tub and speltered from the severity of our climate; yet the occurrence is so rare, as to excite a great deal of interest in the neighbourhood where such an event takes place; and I know not whether the variegated leaved variety, which is not uncommon in collections, blossoms with equal readiness, not having myself heard of the flowering of that kind, till that which is here represented threw up its flowering stem in the summer of 1836, at Aikin Head, the seat of Mrs. Gordon, where the garden is under the management of Mr. Lambie. In this instance, the whole height of the flower stalk was only the half of that of Mr. Yates'; and the blossoms were few indeed, in comparison, yet they came to great perfection, and the plant made a very noble appearance.

But the great size and strange form of this plant, and the rarity of its blossoming in our collections, are not the only circumstances which recommend the American Aloe to attention. It yields a drink and a fibre of such extensive use in the New World, that it is reckoned, next to the Maize and the Potatoe, the most valuable of all the products which nature has lavished on the mountain population of equinoctial America; and no where perhaps is it held in greater esteem than Mexico, according to M. de Humboldt, from whose "Essai politique sur la Royaume de la Nouvelle Espagne," I

extract the following interesting particulars on this subject :-

"Scarcely," says this distinguished Philosopher, "does there exist a tribe of savages in the world, who are not acquainted with the art of preparing some kind of vegetable drink. The wretched hordes which wander in the forests of Guiana, extract from the fruits of different Palms a beverage which is as palatable as the European orgeat. The inhabitants of Easter Island, confined to a mass of barren springless rocks, mingle the express juice of the sugar cane with the briny waters of the sea. Most civilized nations derive their drink from the same plants as afford them food, and whose roots and seed contain the saccharine principle mingled with the farinaceous. In Southern and Eastern Asia, this is rice; in Africa and Australia, the roots of ferns and of some Arums; while in the North of Europe the cerealia afford both bread and fermented liquors. Few are the instances of certain plants being cultivated solely with a view to extract beverages from them. Vineyards only exist west of the Indus in the Old World, and in the golden age of Greece, the culture of the grape was confined to the countries lying between the Oxus and Euphrates, in Asia Minor, and in Western Europe. In other parts of the world, nature certainly produces several species of wild vine; but no where has man attempted to collect them around them and improve their quality by cultivation.

"The New Continent presents the instance of a people who derive their drinks not only from the farinaceous and sugary substance of maize, manioc, and bananas, or from the pulp of some species of minosa; but who cultivate a plant of the pine-apple family, for the express purpose of converting its juice into a spiritious liquor. In the vast plains in the interior of Mexico there are large tracts of country where the eye discerns nothing

but fields planted with the pittes or maguay (Agave Americana). This plant with its leathery and thorny leaves, and which, with the cactus opuntia, has become naturalized ever since the sixteenth century throughout Southern Estrope, in the Canary Islands, and on the African coast, imparts a most peculiar character to the Mexican landscape. What can be more strongly contrasted than a field of yellow wheat, a plantation of the glaucus agave, and a grove of bananas, whose lustrous leaves always preserve their own tender and delicate hue of green! Thus does man, in all latitudes, by introducing and multiplying the various vegetable productions, modify at his pleasure the aspect of the country around him!

"The juice or sap of the Aloe, commonly called the honey, from its abundant sweetness, is only afforded when the flowering stem is about to appear, so that it is of great importance to the cultivator to ascertain precisely this period. Its approach is indicated by the direction of the root leaves, which the Indian always watches and examines with great attention, and which formerly recurved, suddenly take an upward direction, and approximate as if to enclose the incipient flower stalk. The bunch of central leaves (corazon, the heart) next assumes a livelier green and lengthens considerably, indications which the natives assure me hardly ever fail, and to which may be added several other less striking appearances in the general aspect of the plant. Daily does the cultivator examine his Agave plantations, to watch those individuals which promise to bloom; and if he himself entertains any doubt, he appeals to the village sages, the old Indians, whose long experience gives them

an unerring precision both of touch and eye.

"The cultivation of the Agave is attended with many real advantages above that of Maizo, Wheat, or Potatoes; as this sturdy, harsh, and fleshy leared plant is uninjured by the occasional drought, frost, and excessive cold which prevail in winter on the lofty Cordilleras of Mexico. It dies after having flowered, or when the central bunch of leaves is cut away, and then a number of suckers spring from the parent root, which increase the plant with extraordinary rapidity. One acre of ground will contain from twelve to thirteen hundred plants of Maguay, of which it may be calculated that one in every thirteen or fourteen is always affording the honey. Thus the proprietor who sets from thirty to forty thousand Maguays, is sure of leaving his family rich, though a man must possess patience and resolution to devote himself to cultivating what only becomes productive after an interval of fifteen years. In good soil the Agave blossoms, at the end of five years, while in poor ground nothing can be expected under eighteen years; and any artificial means by which the flowering state is unnaturally accelerated only destroy the plant prematurely or materially lessen the amount of sap.

"But not only is the Agave the Mexican vine, but it holds the place of Asiatic hemp, and the Egyptian paper reed (Cyperus Papyrus). The aucient manuscripts of this country consisted of hieroglyphics often inscribed on a paper made of numerous layers of the Agave leaf macerated in water and glued together in the same manner as the pith of Papyrus and the bark of the Paper Mulberry (Broussonetia) of the Pacific Isles. I brought away many ancient specimens of this fabric, some as thick as pasteboard, others as thin as fine India paper, which are the more interesting, as all the Mexican records hitherto discovered and still preserved at Rome and in Spain, are inscribed on the skins of the Mexican deer. No thread is so much prized by physicians in Europe as that which is extracted from Agave leaves, which are sometimes ten feet long, fifteen inches wide, and eight thick, because it is not liable to twist. though the fibre of the New Zealand flax (Phorminm tenax) excels it in tenacity. Twine, thread, and rope, are made of it; the latter is employed in the mines, and on the western coast for rigging the ships. The common juice of the plant, or that which it yields when not about to blessom, is highly caustic and useful for cleansing wounds; while the thorny points of the leaves, like those of the Cactus, used to serve the Indians for nails and needles; the Mexican priests were accustomed to inflict wounds in that manner on their breasts and arms by way of expiation, as do the Buddhists in Hindostan."

Rarely as the American Aloe blossoms in this part of Europe, a friend o

mine, who lately visited the shores of the Mediterranean, in the north of Spain, tells me that the brown withered those ring stems often stand there as tall, strong, and thick as the masts of small vessels in a harbour, and are sometimes used for thatching. The height of this stalk varies from twenty to forty feet, and expands like a rich candelabrum its arms clustered with golden yellow flowers. An extract from the foliage, when made into balls, will lather water like soap; and finally the centre of the flower stalk cut longitudinally is by no means a bad substitute for the European razor-strop, owing to minute particles of silex forming one of its constituents in the same way as the Dutch rushes or stems of the Horsetail (Equisetum) are employed to polish ivory and brass. My friend, William Christy, Esq., when writing from Guernsey last autumn (1837) says "in this delightful climate, an Agave Americana is just coming into flower in the street of St. Pierre Port. It is twenty-five years old and already thirty feet high, and has always stood in the open air summer and winter without any protection.—Botanical Maq.

In a notice of the Gardener's Magazine, by William Blackadder, on the measuring of growing timber, he says, he found the large larch tree at Dunkeld 100 feet in height, and to contain upwards of 400 cubic feet of timber. It has been planted about 102 years. There is a second tree of the same kind growing near the above, and nearly of equal magnitude.

FLOWERING OF AN AMERICAN ALOE, AT CLOWANCE, IN THE COUNTY OF CORNWALL.—The plant in question was planted in the open air, in the shrubberies connected with the Garden. In this situation it continued to grow until the summer of last year (1837) when, about the end of June, it exhibited signs of blooming. A daily journal of its progress shows it to have grown, during the first ten days, from six to seven inches each day. After this period, its growth gradually diminished to not more than half an inch per day. On the 1st of July, the flower stem was 10 feet 11 inches high; on the 19th of July, 16 feet; on the 3lst July, 19 feet, on September 7th, the flower stem attains its full height, 25 feet. The number of flowers produced were 5088.

The fertile mind of our friend, Mr. Louden, is ever on the stretch. With him the announcement that one book is near completion, is synonymous that another is ready for publication. He says, "The Suburban Gardener will be completed on July 1st., immediately after which will appear, in monthly numbers, The Suburban Cultivator, to be complete in fifteen numbers, at 1s, each."

JAUFFRET'S MANURE.—For this manure it appears a patent has been taken out for England. It is produced from broom, heather, furze, rushes, also vegetables and weeds, such as couch grass, &c. &c. These are to be thrown into a heap, and moistened with a liquid prepared by fermentation, consisting of water, unslacked lime, salt ammoniac, kitchen water, sweepings, dead animals, spoiled provisions, urine, soot, wood ashes, sea salt, drainings from dung hills, &c. &c. All this is very good, but certainly nothing new to the practical gardener. It is a process in daily operation in the rubbish ground, which must necessarily be connected in some way or other with every garden in the kingdom.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

No. XXVII.-AUGUST, 1838.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE, HABITS, AND PROPAGATION OF FUCHSIA FULGENS.

BY AN AMATEUR.

As the object of the Floricultural Magazine, is to disseminate Floricultural information, and more especially whatever has reference to plants of recent introduction, I, therefore, forward the following remarks relative to a plant of no slight importance, and yet I think it is one very likely to produce disappointment in the minds of some, who like myself, are not well supplied with the means of cultivating and attending to plants of tedious and difficult culture, such at least I have so far found this plant, I mean Fuchsia Fulgens, introduced by Mr. Lee, of the Hammersmith Nursery, and extensively circulated over the country during the spring of the present year. I obtained my plant about the end of April; I immediately submitted it to a strong heat, notwithstanding which, I failed to excite it into a growing state for nearly a month, when several eyes made their appearance at the base of the small weathered stem. On closer examination, I discovered what I thought was the real cause of my plant standing so long in a dormant state, - namely, the stiffness and coarseness of the soil, and the absence of all appearance of roots at the edge of the I instantly set about providing a remedy for this evil, by shifting the plant into fresh earth. During this operation, and in removing the hard and unkindly earth, the whole of which left the roots, or I ought rather to say the tubers, for such is the nature of its roots, which very much resemble the Marvel of

Peru, or even a Dahlia root. On first discovering the tuber of this plant, I suspected myself to have been imposed upon, and that either wilfully or by mistake, a wrong plant had been sent to me, but on referring to the Floricultural Magazine, I found by some remarks of the Editor, that the roots of this plant ought to be tuberous. Since then I have divided the tubers into several pieces. They grow on the top of each other; they do not spread laterally, but rise up or descend in a curious man-The pieces which I divided, each having one or more eyes at the time exhibiting a disposition to grow, continue to progress, though slowly, and are now under two inches in height, so that this year I expect to have no flowers. Had I been earlier acquainted with the habits of this plant, I might have turned it to account, by way of increasing it, had that been an object which I wished to attain: I am not aware, nor am I able to form any opinion of its habit, with respect to its mode of growth, that is, whether it be of free and rapid growth, or whether it be of slow and difficult culture. I find a strong temperature suits it best. When better known it will probably be found distinct from the Fuchsia. AN AMATRUR.

DRYTON GREEN, &c.

The first article in the Gardener's Magazine for July, is a descriptive notice of the villa of Mrs. Lawrence, of Dryton Green, taken from the Suburban Gardener, a work which we have previously noticed in the Floricultural Magazine. In the prefatory remarks to this notice, an important hint is thrown out, professedly for young Gardeners, but is well deserving the serious consideration of a very different class of persons, and to whom it is of far more importance, than to young gardeners. The writer says the young gardener may learn from this, how little of the real merit of a place depends on its extent. We may say without fear of contradiction, that ninety-nine gardens in every hundred are too extensive for the means allowed for their support. This is an evil which is not likely to be checked by a speedy remedy, and until proprietors, as well as gardeners, are convinced of this, the evil will of course continue to increase, It is a common question

with gardeners on being engaged to a new situation, and we feel little doubt but it would be the first enquiry to be made, what is the extent of the place? and should it happen to be renowned for its number of acres, the number and capacity of hot-houses, and other horticultural structures, he would be much more likely to undertake the management of this extensive place with a dozen men, than he would one of half the extent even with the same number of assistants. This, although the extreme of folly, is a prevailing evil, and one of the greatest hinderances with which the science of gardening has to contend. There is more enjoyment and pleasure in beholding one well grown plant, or one well kept acre of garden ground, than a hundred sickly plants, or twenty acres of garden ground badly kept.

As an amateur, Mrs. Lawrence is enthusiastically devoted to the culture and collecting of new and choice plants: this is fully attested from the fact that she has had awarded to her thirty-two medals, during the short period of five years, obtained at the various exhibitions at the Chiswick Gardens, and at the monthly meetings of the same Society, held in their rooms in Regent-street. Such is the interest which she takes in the cultivation of New Holland and Cape plants, that whatever is new and interesting she instantly purchases it, without reference to price. Mrs. Lawrence's garden is under two acres in extent, it is numerously studded, with statues, vases, rockwork, rustic arches, fountains, basketwork, groups of flowering shrubs, pyramids of climbing roses, &c. &c., and contains hothouses for the culture of stove and greenhouse plants.

There is a communication in the same work on woodpeckers, where the writer alludes to the fact, that owing to the ignorance of the habits of the many kinds of birds, persons may often wage a war of extermination against the whole of the feathered tribe, forgetting that while some feed on seeds and fruit, and are, therefore, destructive to garden crops; others subsist entirely on insects and their larvæ, and ought, therefore, to be encouraged by every possible means. He says there are four species of woodpeckers in this country. The one most frequently met with is the green or laughing woodpecker. The next is the greater or spotted woodpecker; the less spotted woodpecker; and the smaller or less spotted woodpecker;

all feed on insects which prey on wood, more especially the decayed parts. They breed in holes of trees, where they mostly resort at other times. The formation of the tongue of this bird, which, when within the bill is under an inch in length, is such, that when in search of its insect food, it is sometimes extended along the small and tortuous holes in decayed wood, five inches or more. The tip of the tongue is furnished with short thick bristles, and is spoon shaped; by means of these bristles the insects are dislodged with the greatest expedition and certainty. These birds never dig their holes in the sound part of the timber, and whenever these holes are discovered, it is sure evidence that the parts are in a state of decay.

In an account of the growth of some tress in the park of the Marquess of Landsowne, at Bowood, by J. Spencer, there is an interesting fact stated, namely, that Pinus Pinaster, and Cedrus Libani, have in a given number of years, when compared with several others of more common and rapid growing kinds of Pines, produced the greatest bulk of timber.

In the Cesearian Nursery, in the Island of Jersey, Mr. Saunders, the occupier, says, the following plants have stood in the open ground, uninjured without any protection, during the whole of the late severe winter, Camellias, Fuchsias, &c., one of the former, the old variegatum, had produced upwards of 300 blooms in the course of the present spring. Also, Pittosporums, Fontanesias, Viburnum Cosmea, Yucca Eriobotrya, Myrtus Edwardsias, and many others less tender. An ample list is given of tender plants trained against a wall with a south aspect. In this list there are included Kennedya, Monophylla, Bignonia, Pandoræ, on a wall with a western aspect, are, Jasminums, Chimonanthus fragrans, &c., the latter flowered freely during the frost.

Alexander Forsyth on forcing the cherry recommends that the soil should be that of the top spit from a loamy pasture, and about one-fifth part of the whole bulk of the border to consist of broken bricks or porus sandstone; this is for the purpose of keeping the border open, and to prevent it souring, as it is termed, by the frequent application of liquid manure, and that the border should be laid on about one foot in depth of broken stone. The kind recommended is the Morello, being a surer bearer than the May Duke. Mr. Forsyth says, the pruning and summer disbudding

suitable for Peach trees is equally well adapted for the Morello Cherry, but very properly advises that the greatest possible care should be taken in the performance of this operation not to bruise, sprain, or in any way whatever to injure the bark. The slightest incession made in the latter will cause the part to gum and die, and not unfrequently prove destructive to the tree itself. temperature of the cherry house should resemble a mild English spring, under an Italian sky, giving plenty of air without wind; warmth without heat, with the healthful dews of a cloudless sky. And this he says may be accomplished by means of hot water when the quantity of piping is nearly double that usually introduced into hothouses. This is a most important hint which we would strongly recommend to the consideration of those who have intrusted to them the heating of hothouses. In one case where hot water has failed on account of the construction, or the particular form of the apparatus, ninty-nine have failed owing to the limited quantity of piping. In introducing a small quantity of piping there is an appearance of saving in the expense of erection. This is, however, a fatal delusion, followed by consequences of the very worst kind. The following are some of these, and will be easily understood, When the quantity of piping is large in proportion to the area to be heated, the desired temperature is of course maintained in the hothouse, while the water is less intensely heated than when a limited quantity is used. The consequence of this is, the fire under the boiler does not require to be kept burning so fiercely, the water being also at a lower temperature. the caloric generated in the furnace is more completely absorbed by the comparatively low temperature of the water with which it is in contact, and, therefore, less heated air passes up the chimney, so that here their is an obvious economizing of fuel. When on the contrary, the piping is small it becomes necessary to keep the fire burning at an intense heat, so that the speedy destruction of the boiler, the furnace door, and brick work, in fact, the whole aparatus is the unavoidable result. In practice, we think, but little importance need be attached to the difference between the air of a hothouse, the temperature of which is raised to a given height by hot water pipes, varying fifty or even a hundred degrees; were this the case, it would be a strong argument against Mr. Perkin's foolish system of heating by means of small tubes with the water raised to a temperature of mearly 600 degrees. In using an apparatus heated to this degree the waste of fuel must be immense.

To return to Mr. Forsyth, he says, the want of success in forcing the Cherry is mainly attributable to the borders being improperly drained, thereby preventing the free escape of all superfluous moisture, and the want of proper attention to air and water. With regard to temperature, he says, he should always begin at 40 degrees, flower and stove at 50 degrees, and swell off at 55 degrees of artificial heat, allowing 10 degrees of higher temperature during sun shine.

In an article by John Machray, Gardener at East Sutton Park, on the pruning and general culture of the filbert, he recommends pruning the same way as is practised on the gooseberry, keeping the tree open in the centre, and preventing them from rising higher than five or six feet in height. All suckers are carefully grubbed from their roots; and, when properly treated in this way, they produce twelve or fourteen cwt. per acre; and in that neighbourhood, in a plantation belonging to Mrs. Porter, at Sutton Valence, are sixteen hundred trees planted twelve feet apart.

Taking Bees in India.—This is performed with perfect safety by the operator having previously rubbed the exposed parts of his body with what is there called toolsy (black ocymum of botanists).

It is not generally known that in the process of kyanising the effect extends no further than the outer crust of the plank. Numerous and varied experiments have proved this to be the case. Kyanising is not, therefore, of the slightest benefit to timber, if, after being submitted to this process, the surface is cut or even planed.

Some lengthened communications quotations, &c., appear in the miscellanious department of this excellent Magazine, relative to the management of bees, shewing the different opinions entertained by bee fanciers relative to Mr. Nutt's system of bee management, and the conclusion at which we arrive, judging from the evidence before us, is certainly in favour of Mr. Nutt's hive. Most of our readers are no doubt aware of the construction and the advantages of Mr. Nutt's hive over the one in general use. In Nutt's hive the honey can at any time be removed without destroying the bees. Swarming can also be prevented by proper attention to ventilation.

NOTES MADE DURING A GARDENING TOUR. BY THE EDITOR.

Woburn Abbey, April 25th.

We visited this princely place on our return from London; and here also the devastation committed by the severe frosts among the half hardy out door shrubs was more or less conspicuous, particularly in the Heath Garden, where the remains of many of these ornamental shrubs were to be seen, the stems of which were several inches in diameter, but completely killed to the ground. In the succulent house, which is here a prominent feature of the place, there is an extensive collection of these highly curious and interesting plants, among which are many new and undescribed species. The house itself forms one of the largest divisions of the ample and elegant range now in course of completion, being three hundred feet in length, and varying in breadth from twenty to thirty feet, except the centre house, which is an octagon, and designed for the culture of palms, plantains, &c. The range is glass on both sides, to within two feet of the ground; a walk extends along the centre, the effect of which is very good, the plants rising and overhanging the path on each side. The rich architectural embellishments of the front of this extensive structure gives to it a noble and imposing appearance. The ascending ground on the south front is, however, disadvantageous in point of general effect; in this respect, probably, our friend Mr. Forbes will advise his noble and liberal employer to remove the defect: it will then be unsurpassed or even equalled by any thing of the kind in the kingdom. In a lower part of the pleasure ground, at a short distance to the south-east of this noble range of plant houses, is a rock work in course of formation, near which is a piece of ornamental water, the whole being surrounded with neatly kept lawn, and backed by a young but thriving Pinatum. The stone for the rock work has been brought from Devonshire, and many of the rude blocks were very large. In the Pinatum we observed Pinus insignis, P. caneriensis, and P. longifolia, they were not quite killed by the severe frost, but much injured. Aurecaria imbricata, quite fresh and green in the foliage, without any cover

whatever, Aurecaria Brazilensis in the same situation, and covered upwards of twenty inches in thickness with boards and dry fern, was so much injured as left but little hope of its recovery. In passing along the walks of the pleasure ground, we were struck with a very simple and ingenious contrivance for stopping, or placing in, footpaths a difficulty of frequent occurrence about those places where mechanics are employed. It consisted of a ball, or round piece of wood, nine or ten inches in diameter, through which were placed three rods of wood, about the thickness of an ordinary hoe or rake handle; these being made to pass through at an acute angle with each other, their extremities were at equal distances apart, and, therefore, whatever way it was turned, the same appearance and obstruction was presented to the passenger. On the south-east of the pleasure ground and near the abbey stands what is termed the Chinese dairy, fitted up in the most elegant and costly style. Some of the milk dishes, most of which are China, cost upwards of a hundred pounds. The Erica house is elevated, and underneath is a covered way, connecting various outbuildings and offices, situate between the abbey and the pleasure ground. The heath house is narrow, with a span roof, having the path in the centre, with slightly elevated stages on each side, adapted for the growth of plants under three or four feet in height. At the extreme end is an anti-room, containing a small library of Botanical Works; and opposite the entrance door, on a line with the footpath, is a splendid Mirror, seven feet by five, which adds to the apparent extent of the house. Near to this, and facing a French flower garden, but at some distance from the abbey, is a spacious Sculpture Gallery, the interior of which is supported by eight antique columns of solid marble, and contains a large collection of the finest specimens of the art. Contiguous to this gallery is a large conservatory, or greenhouse, filled with many fine old plants, and some of the newer and more robust kinds, such as Camellias, Rhododendrons, Acacias, Azallias, &c. The collection of Orchidaceous plants is also rapidly increasing; amongst the recent additions we noticed a very interesting species of Cattleya, the stems were upwards of three feet in height, and the leaves, there being only two or three at the extremity of each stem, were nearly twelve inches long, and three in breadth. In the various propagating houses, and other nursery departments,

were many of the new and rare plants of recent introduction. In the succulent house, already noticed, we observed a fine plant of Cerius nycticalis, with large white flowers; Cerius speciosa alba, with pure white flowers. The kitchen and forcing garden is not less complete than the botanical and ornamental department. The forcing houses are nearly new, they are very elegant, and are built on the most approved principles. In one of the borders of the kitchen garden a collection of choice pears are cultivated as standards, trained in the form of pyramids, and rising to the height of ten feet or upwards. The whole of the branches are bent downwards, presenting a curious pendulous appearance. This latter circumstance is deemed of great importance in the culture of this fruit, and is found to cause productiveness at a much earlier age than by any other mode of treatment. Woburn Abbey may be said to be celebrated for its willow garden; its grass garden; its collection of succulent plants; its collection of Cape heaths; and shortly will be added to these, one of the finest ranges of plant houses in the kingdom. As a practical gardener Mr. Forbes is eminently successful; nor is he less so as an author, of which there is ample testimony, in his very excellent practical and useful book the "Hortus Woburnensis," and other works on Gardening.

Editor.

ON THE CULTURE OF CELERY.

BY A GARDENER OF THE OLD SCHOOL.

The introduction of this plant into the quarters of the kitchen garden, and the uses to which it is now so extensively and variably applied, both as an esculent vegetable, and a sallad herb, render this plant at once an object of peculiar interest, and deserving the especial attention of all whose business it is in any way to provide for the demands of the cook and the housekeeper, with whom this much and deservedly esteemed plant is in almost daily requisition. My object is less that of pointing out the particular and proper seasons for sowing the seeds, and the raising of early and late crops, than that of stating a few general remarks bearing immediately on its culture. The seeds may, of course, be sown

from the first of February to the first of April, depending entirely whether late or early crops are required. I have nothing particular to remark, with regard to the mode of raising and forwarding the young plannts; all I would contend for here, is, that every means should be adopted to forward them with all possible speed. At the season of planting (from the first of May to the middle of June) I dig the trenches two feet deep, and about eighteen inches wide, this is filled about fifteen inches deep of well rotted manure, when trodden down very firm, it is covered two or three inches with the finest and most pulverized parts of the soil taken from the surface of the ground, not the part dug out of the trench. With respect to planting, I may mention, that in raising the young plants, they ought to be transplanted from the seed bed, on a thin laver of manure, from two to three inches in depth; it ought to be quite rotten, and made smooth and firm; this layer of manure is thinly covered with earth, and the young plants being pricked into it, at about four inches apart each way, are, at the season of planting into the ridges, readily lifted by cutting the manure into squares, with one plant in the centre of each square, the plants are thus removed without the slightest injury to the roots.

When the plants have commenced growing freely, which will generally be towards the end of June or beginning of July. They ought to be abundantly supplied with water. They, of course, require close attention in watering during the time they are first planted; but during this, all that is necessary is to keep the ground moist. But as soon as they shoot up and grow freely, they must be very copiously supplied with water, if the object be to grow the plants to a large size and of good quality.

It may not be known to all, that Celery is the poisonous and worthless weed so common in rank soils by the sides of wet ditches, where it can obtain at the same time abundant food and moisture. It is a semi-aquatic. It, therefore, requires, when grown to perfection, to be kept saturated with moisture.

A GARDENER OF THE OLD SCHOOL.

ON THE MODES OF CULTURE AND COOKING THE EGG PLANT.
BY JOHN WILLIAMS.

As many persons grow the Egg Plant as an ornamental annual for the decoration of their greenhouses and stoves, those who



have them in quantity, which is sometimes the case, may not be aware that they are eatable, and may indeed be so cooked, as to render them not only eatable, but quite agreeable. I have frequently used them, and have adopted the following method in dressing them. In order to destroy the bitter taste common to all the kinds, split each fruit lengthways into three pieces, slight and numerous incisions are then made in the skin, and rubbed full of salt, after which, they are allowed to stand for several hours. They are then placed in water to extract the salt, and may then be considered fit for use, and may be fried with butter, pepper, and bread crumbs.

To grow this plant, nothing more is required than that generally bestowed on other tender annuals. The seeds may be raised in a hotbed, in pans, or pots, and may be planted at the bottom of a south wall about the end of May or beginning of June.

JOHN WILLIAMS.

LETTER FROM JOHN NEWMAN, ESQ., CURATOR OF THE ROYAL GARDENS, MAURITIUS, TO MR. COOPER, WENTWORTH HOUSE, ON THE PACKING OF PLANTS AND SEEDS INTENDED FOR LONG VOYAGES, WITH OTHER INTERESTING REMARKS.

I received your kind letter of Dcc. 15th, 1836, with the two boxes containing vine cuttings, pines, and seeds; the vines came in tolerable good order, and four of the pines were alive, the rest rotted; and the seeds, which came at the proper time for sowing, all were mildewed, and not one came up; they were placed in the hold of the vessel, and, however they may be packed, in this situation, I invariably find seeds to be destroyed by the heat and moisture of the hold. Should you have an opportunity of sending me some pines again, a couple of each sort would be sufficient. I could wish crowns or sucker packed dry, and the case perforated with as many holes as possible, and the holes to be half an inch in diameter; but if they could be sent by a captain who would keep them in the cabin, they might be packed in a common wicker basket, and the basket suspended to keep the rats (if they have any) from eating them. In this manner, I brought with me from England, in 1825, about fifty plants (but all the common



Queen), and I did not loose one; they were yellow, and apparently dried up, but by exposing them gradually to the air, and asterwards planting them, I have raised my present stock. I have now in my experimental garden above five thousand Queens. and next year I hope to throw all the common sorts of the island away. But the Jamaica, smooth Antigua or Havannah, Black Antigua, New Providence, and other fine sorts you have in England, which I am not yet in possession of, although I have at many times, from Sion, Kew, &c., plants sent me, but through the carelessness of the masters of vessels, they never arrive safe. So much for Bromelia ananes. Your Dahlias arrived in excellent order; and the vines could not have been packed better. I attribute the whole neglect to the master of the ship, but he did not know the contents. But seeds should never be packed with living plants. By the Alexander, Captain W. Ramsay, I send you a case of plants, which, with us, are remarkable either for their beauty or foliage, viz.—two Rosa Edwardii, this beautiful rose is in flower with us the whole year, and, in fact, as far as regards the smell, we care not for cultivating any other. I have heard that some of those I sent to Kew had flowered, but like the cabbage rose in England, they never burst well. I attribute it to having been exposed too much in the greenhouse; I think with a little good management it might be made a desirable rose to force; it is scarcely credible the number of flowers which each branch bears. One Myristica moschata, a large and fine fruited variety; one Myristica sylvestris; one Spathodea zanzabarinsis; three Musa paradisiaca, one of our best plantains, and will produce fruit within the twelve months. I think this might be a desirable plant for your kitchen garden department. We generally obtain suckers of six inches in diameter in the stem, and plant them at five or six feet distance; I have had 212 fruit from one stem; they do not thrive so well when in pots or boxes; one Sagruffia; one Rubiaceæ chazalia, beautiful large white flowers; one Bertiera rufa, Euterpe, species Cissus fragrariæ folius Boj; one Compositæ, fol. auriculatis, handsome plant from Madagascar; one Eugenia, fol. amplis, flor. majus, native of our woods, but scarce-Rubiaceæ betiera; one Rubiacea -Collea floribunda Bag. (the Bignonia cauliflora of other authors) has beautiful foliage and flowers; one Stravadium acutangulum; one Ochna Mauritiana; one Arthrophyllum of Madagascar, I am

told the flower of this splendid bignonia is very handsome, it is a native of Madagascar; I only received it last year; I am informed that there are sometimes six joints to each leaf. I hope this will prove another species. Two Tanæcium pinnatum, a very large tree, the pendulous racemes of flowers are sometimes nine feet long; one Polypodium Wildenowii, and five other filices, eight sorts of Orchidese and aloe leptocaulon Boj., a new species from Madagascar. I am in hopes, from the fine time they have to pass the Cape of Good Hope, all will arrive safe in England. This is the first opportunity I have had of sending plants by way of Liverpool; but I ought to have answered your letter. I should have selected a few seeds, nutmegs, &c., but I have been an invalid, and am still, so that I could not go out to collect them; and from the great number of insects we seldom keep any by us. You will doubtles say, why he might have sent out one of his people to collect them; but you will be satisfied when I tell you that my assistant can neither write nor read, knows nothing of botany whatever, and I am reduced to ten hands, (native blacks) equal to about three Englishmen; but I am in hopes as we have now a committee for the garden, things will go on better. They have recommended to Government the necessity of having twenty persons, and the Governor has approved of it. It is really heartbreaking to see this splendid garden going to ruin. I told you, I believe, that I had formed an experimental garden for growing different kinds of fruits and vegetables; but since I wrote you last I have been deprived of the water, which has thrown me back, but I hope it will prove of great service to the Colony. Our fruits, except mangoes and Litchies, alligator pears, and a few others are bad; we have not an orange worth eating. Should you have an opportunity of sending me a couple of sorts of orange trees, either from cuttings, layers, or grafts, I shall feel obliged, and a few handsome Mexican flower seeds, and a passiflora, or other handsome new plants to us. We have P. racemosa, and corulea-racemosa as weeds. I lost P. grandiflora last year. Cactus and aloe, packed dry in a box, would be acceptable. Pray mention the names of any plants you may want; if for the forcing houses, you would like different sorts of truit trees, I will send some with pleasure. I am expecting to open a correspondence with some of the natives of Madagascar, when I hope to receive of their

splendid orchideæ; we have but few showy species, and they are becoming very scarce and difficult to obtain. I have been wishing to get leave to return to England for a year or so, but I have no person with whom the care of the garden could be entrusted. I assure you a residence of so many years in a tropical climate is very injurious to the constitution, although for the tropics, we have a healthy climate; and what makes it more desirable to the lovers of Flora, they may go into the woods or waters without apprehending any danger from wild beasts, or hurtful animals of any description; in fact, in this respect, we may be compared to old Ireland. I have not heard from dear Kew for a long time; I understand Mr. Forrest has purchased Malcolm's Nurserv. I wish you would send me a cake of new mushroom spawn; I have had it out yearly from Rouald's. Lee. and others, but never could succeed; if you would pack the half of it dry in a bottle, and make it air-tight, perhaps it might succeed. I hope to be able to send you a few seeds before I can expect an answer to this.

JOHN NEWMAN.

Royal Gardens, Mauritius, Feb. 16th, 1838.

[By the kindness of our excellent friend and neighbour, we are enabled to publish this interesting letter. It will be found to contain many useful hints, which may be of value to those who are in the habit of receiving or sending seeds or plants to foreign countries.—Ep.]

REFERENCE TO PLATE XXX.

HOUTZIA MEXICANA, Mexican Hoitzia. (Fig. 1.)

ORD. SCHOPHULARINEM. CLASS PENTANDRIA MONOGYNIA

This is a neat and compact habited half shrubby plant, of easy culture, requiring the protection of the greenhouse during winter, but growing and flowering freely in a sheltered border throughout the summer months. The plant from which our figure was taken, flowered in the rich collection of Mrs. Lowe and Co., of the Clapton Nursery, and is one of the most valuable additions that have for some time been made to this class of showy border flowers. It is readily propagated by cuttings of the young and tender shoots, placed in sand, in a slight bottom heat, and covered with a bell glass. With us it is now growing freely, in an open border in a sheltered part of the garden.

In the Appendix to the Botanical Register, Dr. Lindley speaks of this plant in the following terms. "This charming plant, which has been so long a decideratum, has at length blessemed in the garden of Thomas Harris, Esq.;



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 of Kingsbury. The blossoms were sent me on the first of February, when, owing to the season, they had gained but little colour. It will be found that the summer flowers are of the most brilliant red, and that the plant itself is one of the most beautiful of the Mexican Flora."

GLADIOLUS ODORUS, Sweet smelling Corn-flag.

ORD. IRIDER. CLASS TRIANDRIA MONOGYNIA.

A specimen of this plant was kindly sent us some time ago by Mr. Smith. of the Botanic Garden, Hull, accompanied by the following note. "You will herewith receive the flowers of a Gladiolus, which I had from the Honand Rev. W. Herbert, marked "fine" and in Sweet's Catalogue, I find one from Spofforth called G. odorus. The present species is certainly one of the most powerful, as well as the most agreeable smelling greenhouse plants I am acquainted with. One pot of it in flower, gave to our large greenhouse the most delightful odour, and it was severald ays before I discovered that this was the plant from which it was proceeding. It has been some days in flower, it is now on the decline; but it is its fragrance and not the brilliancy of its colours that is its great recommendation. You are, at all events, at liberty to make what use of it you may think proper, as I believe it has not yet appeared in any publication. Most of the species of this genus, and indeed, it may be said, the whole genera included in the order Iridese, are comprised of plants of great beauty. They are sometimes known by the appellation of Ensatæ. With few exceptions, they are of easy culture, many of the kinds are found adorning the pastures and banks of streams, in Europe, America, and Siberia, others inhabit barren deserts of the same countries, displaying their gorgeous, but fugetive flowers; others again, consisting for the most part of Sisyrinchium and its allies, are found on the cooler parts of the South Sea Islands; and lastly, a large proportion constitute the chief herbage of the arid plains of Southern Africa.

Gladiolus odorus, we doubt not, may be grown with perfect safety and success in a sheltered border.

On the genus Gladiolus, we find Mr. Herbert has the following remark. "The genus Gladiolus ought to be divided into at least, two sections, or subgenera. I consider a sub-genus to be such a portion of any genus as will not mingle with the rest, and has some distinctive appearance, but insufficient to induce a belief of their original diversity. Seedling gladioli will flower often the first autumn; the best treatment is to sow the seed in pots, and give them shelter till the seedlings are pretty strong, and then turn out the ball unbroken into the border, where they will produce a crowded nosegay of flowers of various shades of colours.

"It is not, however, by crossing different species or local varieties of plants only, that the cultivator may add to the beauty of his collection. Much may be done undoubtedly, by crossing judiciously the finest seminal varieties of such plants as have been already improved in our gardens, and are disposed to break into a multiplicity of forms and colours.

"It is to be observed, that in some cases the seminal varieties of plants preserve themselves almost as distinct in their generations as if they were separate species; for instance, the cultivated double hollyhocks, of which, at least, the orange, the yellow, the white, the black, the red, and the pinks, may be raised with certainty, by seeds from plants of the several colours, although planted near together in the garden; and it is probable, that if gardeners were to take the trouble of crossing them with the pollen of plants of a different colour, a greater multiplicity of hues would be procured. In carnations also, seedlings have a great disposition to follow the colour of the parent plant. I have had greater success than any other person in raising from seed double camellias of various tints and appearance, and some of the best have been produced either from single flowers or plants, raised fro m single ones impregnated by the pollen of double flowers, preferring, where it can be got, the pollen that is borne on a petal. The new seedlings that flowered with me in one spring for the first time, were, nine full double, three semidouble, of which one was very fine, and only three single, but such an unusual result is not to be obtained without particular attention to the mode

of treating the mother plant while in flower and seedling: the method which I have adopted, being to keep it in confined air, with a superabundance of water, even to the detriment of its health, and to prevent it from making young shoots in a great measure, if not entirely, by which means an exuberant degree of nutriment is forced to the seed vessel. The reason that the seedlings raised by some Nurserymen are so very inferior, is, that their plants are in the most luxuriant growth; and it cannot be expected, that seed gathered from individuals growing with freedom and vigour, should not be more disposed to reproduce the natural form of the plant, than to yield the fine cultivated varieties which are to be obtained from them when almost diseased by repletion."

GLOXINIA YOUNGIANA, Mr. Young's Gloxinia.

ORD. GESNERIEE. CLASS DIDYNAMIA GYMNOSPERMIA.

This is one of the finest Gloxinias we have seen, and for its possession we are indebted to Mr. Barnes, Gardener to George Ward Norman, Esq. Bromley Common, Kent, who kindly presented us with a flower and a leaf; from the latter we have obtained several plants. It would appear that this plant had originated with Mr. Young, of Epsom Nursery, or he had at least been the first to possess a stock of it. Of its origin, we know nothing more that we have stated above. The genus contains several species and numerous varieties of great beauty. They are readily raised from seed, and have a strong tendency to run into varieties; some pretty kinds have been produced in this garden, but nothing equal to the one now under consideration.

SIPHOCAMPYLUS BICOLOR, Two coloured Siphocampylus.

ORD. LOBBLIACEÆ. CLASS PENTANDRIA MONOGYNIA.

We are indebted to our neighbours, Messrs. Fisher, Holmes and Co. of the Handsworth Nursery, near Sheffield, for the opportunity of figuring this new and pretty plant. It is a native of Georgia, United States, and was collected by Mr. Alexander Gorden, a most zealous Botanical collector, to whom our gardens are indebted for many new and valuable plants, including the beautiful Gardoquia Hookeri.

It succeeds well in the greenhouse, or in a sheltered situation against a south wall.

The first time we saw this plant in flower, it was treated as a stove plant in a hothouse, where the temperature was very high, the colour of the flowers were, therefore, dull, and the high character we had heard given of it was by no means borne out by the specimen in question. We have, however, seen it since under more favourable circumstances, and we are now glad to state that we consider it a very ornamental and graceful plant, deserving the utmost care of the amateur and general cultivator. Messis. Fisher, Holmes,

and Co. have plants of this showy border flower on sale at very low prices.

NOTICES OF NEW PLANTS.

DELPHINIUM INTERMEDIUM, var. PALMATIFIDUM, Dark purple variable lark-spur. [Bot. Reg.

MAT. ORD. RANUNCULACEM POLYANDRIA TRIGYNIA.

Nearly all the lark-spurs are tall strong growing herbaceous plants, most of which are, however, plants of very great beauty, and are peculiarly well adapted for shrubberies and other parts of the pleasure ground, where strong growing plants are required to mix with flowering shrubs. The flowers of

this variety, are light azure blue, and are produced during June and July. The plant attains the height of five or six feet.

EPIMEDIUM VIOLACEUM, Violet-flowered Barren wort. Paxton's Mag.

NAT, ORD. BERBERIDE.E. CLASS TETRANDRIA MONOGYNIA.

Several new species belonging to this very graceful and beautiful genus, have been recently brought to this country from China. The pretty little plant in question, as the name implies, has light purple or violet coloured flowers, with small heart shaped folinge. It is supposed to be hardy, but this is not fully ascertained; it succeeds well when grown in the greenhouse, in a light loamy soil.

PYRUS ARBUTIFOLIA, Arbutus-leaved Aronia.

Bot. Mag.

NAT. ORD. ROSACE.E. CLASS ICOSANDRIA DI PENTAGINIA.

A very large number of the plants comprehended in this natural and very ornamental order, are remarkable for their tendency to sport and assume forms exceedingly variable. This peculiarity is especially observable in the following genera, Cratægus, Pyrus, Mespilus, with many others, but none more so than the common rose or type of the order. The plant in question is like most of the genus, ornamental, and merits careful cultivation. The shoots are slender and rather graceful; the foliage is entire, lanccolate, slightly serrated. The flowers are white and very abundant.

CENTAUREA DEPRESSA, Prosterate centaureu.

Bot. Mag.

NAT. ORD. COMPOSITE. CLASS SYNGENESIA FRUSTRANEA.

This is a straggling annual of moderate beauty, with flowers of a lighter and livelier blue than our common blue bottle, so frequent in corn fields, to which this plant is nearly allied. Native of Iberia and Persia, and flowered for the first time in the Glasgow Botanical Garden.

GESNERIA TUBEROSA, tuberous-rooted Gesneria.

Bot. Mag.

NAT. ORD. GESNEGACEÆ. CLASS DIDYNAMIA GYMNOSPERMIA.

As nearly all the plants belonging to this genus are tuberous rooted, we think some other character less common and more applicable to the plant in question, might have been selected. The leaves of this interesting plant are very large, the foot-stilks of which, rise from the summit of the tube. scarlet flowers also springing from the same point, are supported on numerous spurious little stems, with three or four flowers on each. This plant was introduced to this country from the Berlin Garden, in 1834, by Dr. Graham. It is a stove plant, and flowers during autumn.

RHODODENDRON NUDIFLORUM, VAR. SCINTELLANS (HYBRI-DUM,) Sparkling Rhododendron. Bot. Mag. Bot. Mag.

NAT. URD. ERICER. CLASS DECANDRIA MONOGYNIA.

We do not know a single variety of the genus Rhododendron or Azalca, that does not deserve cultivation; it is, therefore, saving but little, to assure our readers that we think this a very ornamental and desirable plant. It is perfectly hardy, and of easy culture. The flowers are scarlet, or very deep orange. This variety originated with the indefatigable and most successful cultivator of this tribe, Mr. Gowen, gardener at High Clere, who says it is a seedling variety, from Azalea Coccinea, variety Major, impregnated by the pollen of Azalea Pontica.

ENKIANTHUS RETICULATUS, Netted-leaved Enkianthus. [Paxton's Mag.

NAT. ORD. ERICEÆ. CLASS DECANDRIA MONOGYNIA,

This is a scarce, and certainly a very beautiful plant. The foliage and shoots have some resemblance to those of the Camellia. The flowers are numerous, rather small bell shaped, of a white colour; with red foot-stalks. Mr. Payton says, for the figure of this extremely beautiful plant, we are obliged to

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Messrs. Lucombe, Pince, and Co., of the Exeter Nursery, in whose Nursery it flowered during the whole of last December and January. It is a plant of easy culture, and succeeds well in the border of the conservatory, in a compost of loam and peat earth. It is a native of China.

IPOMÆA BONARIENSIS, Buenos Ayres Ipomæa.

Bot. Mag.

MAT. ORD. CONVOLVULACEM. CLASS PENTANDRIA MONOGYNIA.

This is a handsome twiner, with pale lilac flowers, discovered by Mr Tweedie, on ditch banks, about Buenos Ayres, and by whom seeds were sent to this country, in 1826. He says it has a large tuberous root. It requires the temperature of the stove, and flowers during August.

NEMESIA FLORABUNDA, Many-flowered Nemessia.

Bot. Reg.

MAT. ORD. SCROPHULARIACE. CLASS DIDYNAMIA ANGIOSPERMIA.

This is a slender growing annual, about a foot in height, with opposite heart-shaped leaves, and white and purple coloured flowers, resembling Collensia bicolor. It succeeds well in a sheltered border, in the open ground, and should be sown about the middle of March.

SALVIA CANESSENS, Hoary Sage.

Bot. Reg.

NAT. ORD. LANUACEE. CLASS DIANDRIA MONOGYNIA.

A hardy herbaceous plant, with purple flowers. The leaves are covered with a whitish wool, and is recommended as particularly well adapted for rock work. It is a native of Caucasus, and was sent to this country by Professor C. A. Meyer.

PHALÆNOPSIS AMABILIS, the Indian Butterfly Plant.

| Bot. Reg.

NAT. ORD. ORCHIDER. CLASS GYNANDRIA MONANDRIA.

A rare epiphyte, a native of Manilla, introduced into this country by Mr. Cuming. This is the first time which this very beautiful plant has flowered in Europe. Dr. Lindley says, "The curious form of the flowers, the graceful way in which they hang down from below the leaves, their large size, and the brilliant whiteness of their broad leathery petals, give this species a most striking and uncommon appearance." In cultivation, it is found to succeed the best when fixed on pieces of wood, and suspended from the roof of the stove. The wood should be in a decaying state, so that the roots may find moisture in the softer and decaying sparts; or the roots ought to be covered with moss. The plant in question, is in the possession of Messrs. Rollinson, of Tooting.

EPIDENDRON VIRIDI PURPUREUM, Purplish green Epidendrum.

Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONOGYNIA.

This is a very pretty flowered species, with stout upright leafy stems. The flowers are green and purple, an lare produced at the extremity of the nodding flower stem. It is a native of Jamaica, and was introduced from thence by Mrs. Horsfall, of Liverpool, who kindly presented it to the Botanic Garden of Glashow.

DENDROBIUM DENSIFLORUM, Dense-flowered Dendrobium.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONOGYNIA.

The stems are thick, fleshy, and horizontal, with large oval alternate fleshy leaves. The raceme of flowers is large and pendulous, and the flowers themselves are of various shades of orange, and very numerous. This plant was found on the Khoseea Hills, by John Gibson, botanical collector to his Grace the Duke of Devonshire.

"All or the greater number of the species of Dendrobium, flowers in India in the hot or dry season, which is succeeded by the rainy season, when they

make their shoots, and during the cold or winter season, they have a period of repose. They thus enjoy three seasons, while in this country we have four, the autumnal quarter not being known there. The different seasons of India being thus so well known, it is by no means difficult to imitate them in our hothouses, and by attending to these simple rules, we should be enabled to flower the various species of Dendrobium more abundantly than any other genus of Orchidaceæ; besides which, we might easily induce then, to flower in this country at any season of the year."—Paxton's Mag.

PHAIUS ALBUS, white-flowered Phaius.

Paxton's Mag.

NAT. ORD. ORCHIDER. CLASS GYNANDRIA MONOGYNIA.

An exceedingly beautiful plant, with white flowers. The labellum only being coloured with purple streaks of the most exquisite and delicate forms. This was also found by Mr. Gibson, on the same range of hills with the preceding, but at an elevation of three thousand five hundred feet, where it blossoms during the rainy season.

TRITONIA FUCATA, Painted Tritonia.

| Bot. Reg.

NAT. ORD. IRIDACEM. CLASS GINANDRIA MONOGYNIA.

A very showy and desirable plant, with flag leaves, with tube shaped scarlet yellow and purple flowers. It is a native of the Cape of Good Hope, from whence bulbs were received by the Hon. and Rev. W. Herbert, about twenty years ago. In this gentleman's garden it succeeds well, in an open, but sheltered situation, on a south border; thriving alike in all kinds of soil, and increasing so rapidly, that last year hundreds of bulbs were dug up and destroyed. Although cultivated in the above garden for so many years, it has only now flowered for the first time in this country. Mr. Herbert says, "At the end of last autumn, it occurred to me to have dung laid on the patches which were growing in the garden-soil, and the result has been the production of a flower stem this summer." He goes on to say, "I doubt not that manure is the requisite to make it flower freely."

ANIGOZANTHUS FLAVIDA, yellow haired Anigozanthus.

NAT. ORD, HÆMODORACEÆ. CLASS HEXANDRIA MONOGYNIA.

A native of New Holland, from whence it was introduced to this country many years ago. This is a very interesting and curious plant, with flag leaves, and a large corymbe of green coloured tube shaped flowers. The plant from which the figure before us was taken, was raised by R. Mangles, Esq. from seeds which he obtained from the Swan River Colony. Dr. Lindley says, he shall soon publish a very striking variety by Mr. Mangles, with brilliant scarlet and green flowers.

It requires the protection of a greenhouse, and succeeds well in rich loam mixed with one-third sand and peat earth, to which a small quantity of dung should be added. It also thrives and grows freely, planted in the open border during summer, and with slight protection might endure our ordinary winters.

FUNCKIA SIEBOLDIANA. Dr. Siebold's Funckia.

[Bot. Mag .

NAT. ORD. HEMEROCALLIDEÆ. CLASS HEXANDRIA MONOGYNIA.

Another species of those plants, for the possession of which this country is indebted to the exertions of Dr. Siebold, by whom, along with many other valuable plants, it was brought from Japan. The leaves are radicle or rising from the ground, there being no stem. The foot stalks are several inches in length, and the leaves are oval and pointed at both ends. The flower scape or stem rises above the leaves, bearing eight or nine tube like flowers of a whitish purple colour. Its season of flowering is July, and requires the protection of the greenhouse.



PLANTS PUBLISHED BUT NOT FIGURED.

DENDROBIUM FORMOSUM.

This truly splendid plant is one of those numerous and in many instances beautiful plants, brought from the East Indies by Mr. Gibson, sent out as botanical collector by his Grace the Duke of Devonshire. In speaking of this plant, Dr. Lindley observes:—"The flowers grow at the end of a leafy stem, and are between three and four inches in expansion, with every part, of the purest and most transparent white except one delicate lozenge shaped buff coloured blotch in the centre of the lip."—"It has been sometimes said that the Flora of South America is richer in beautiful orchidaceous plants than that of India, and an appeal has been made to the Cattleyas Epidendra Oncidiums and Maxillarias of the former country. But I know of no South American species so admirably formed and coloured as India can produce in the case of Dendrobia of various kinds. Saccolabiums and species of the genera Phaius Vanda Cœlogyne and Gramatophyllum of these Dendrobium formosum must stand among the foremost in point of beauty."

EPIDENDRUM IONOSUM.

The flowers are rather large for an Epidendrum and of a dull brown, and so truly fragrant, that Dr. Lindley says, "The Western World need no violets where this charming plant is found," imported from Essequibo by Messrs. Loddige.

SACIOLABIUM GEMMATUM.

An exceedingly small flowered species, brought from the Knosera Hills of India, by Mr. Gibson, to the collection at Chatsworth.

EPIDENDRUM VESICATUM.

Nearly allied to E. equitans, with flowers of a greenish white colour. It is a native of Brazils, and is cultivated by Messrs. Loddige.

ODONTOGLOSSUM CORDATUM.

A native of Mexico, having yellow flowers richly blotched with brown. This is very different from any of the species previously described. It has flowered for the first time with G. Barker, Esq. of Birmingham.

EPIDENDRUM LIVIDUM.

A native of Columbia, with unattractive flowers. Cultivated by Messrs. Leddige.

ONCIDIUM CONFRAGOSUM.

This is cultivated by G. Barker, Esq. It is a native of Mexico, and is of a faint straw colour delicately spotted with purple.

MICROSTYLIS EXCAVATA.

Also a native of Mexico, and cultivated by G. Barker, Esq. The flowers are green, and not very attractive.

MAXILLARIA BOOTHII.

Imported from Guatemala by G. Ure Skinner, Esq., and now cultivated in the orchideous collection under the care of Mr. Booth, at Sir Chas. Lemon's, Carelew, where it flowered in May, 1838 The specific name is given in compliment to Mr. Booth

FUCHSIA CYLINDRACEA.

"Pretty new species of Fuchsia, raised from Mexican seeds by G. Barker, Esq. of Birmingham. It belongs to the same set as Fuchsia microphylla and Thymifolia, and has cylindrical deep scarlet flowers about half an inch in length, on very slender stalks an inch and half in length."



DENDROBIUM STUPOSUM.

Imported from India, where it was found, by Mr. Gibson. It is now cultivated at Chatsworth, and at Messrs. Loddiges. The flowers are white, and is nearly allied to D. candidum.

COMMELINA ORCHIOIDES.

Another Mexican plant, cultivated at Carclew; a plant of but little beauty, and interesting only in a botanical point of view.

BROVON GEMENIFLORA.

A beautiful bulbous plant, a native of the mountains in Mexico. The flowers are orange and scarlet, and is found to succeed well in the green-house. Cultivated at Carclew.

BATATAS BONARIENSIS.

A convolvulaceous twining plant, a native of Buenos Ayres, and cultivated by Messrs. Low and Co. of the Clapton Nursery. Appears to be intermediate between Ipomia horsfallize and insignis, and grows freely in the temperature of the greenhouse.

ORNITHOGALUM GEMINIFLORUM.

A small plant with bulbous roots, a native of Lima, sent from that country by John Macklean, Esq. to the Hou. and Rev. W. Herbert. The flowers are small and white, and resemble those of O. ochrolucum.

LUSIA ALPINA.

An epiphyte, resembling in habit the genus Aerides. It was found by Mr. Gibson at Nungklow, on the Khoseea hills, at an elevation of 4,000 feet above the sea. Snow frequently falls there during the cold season.

BOLBOPHYLLUM UMBELLATUM.

This, with the preceding, are both cultivated at Chatsworth. Umbellatum is a plant of little beauty, of a dull brown colour.

SACCOLABIUM DENSIFLORUM.

An orchideous plant; a native of Manilla, sent home by Mr. Cuming.

MISCELLANIES.

The origin of wearing the leek, Allium porrum, on St. David's Day, can only be conjectured. Some have supposed the practice originated with a victory obtained by the Britons under Cadwallo, over the Saxons, March 1st, 640, when the Welsh, wanting a mark of distinction, wore leeks in their caps. In the play of Henry V., Shakspeare mentions the ancient custom of their wearing this badge, in honour of their Saint.

METROSIDERUS FLORABUNDA.—In several situations this shrub is again springing from the bottom of the stems, several inches above the ground. The roots had a slight protection of saw dust through the winter. Hakea Suaveolens has also stood on a border under a wall, with a south-west aspect, without the slightest injury. The plant was small, having been raised from seeds obtained from New South Wales. This plant does not always prove hardy in the same garden, it has been killed by the frost of the past whitet.



The carrion crow, corvus corone, is perhaps the most generally known and least beloved of all our land birds; having neither melody of song, nor beauty of plumage, nor civility of manners to recommend him; on the contrary, he is branded as a thief and a plunderer. Hated as he is by the farmer, watched and persecuted by almost every bearer of a gun, who all triumph in his destruction, had not Heaven bestowed on him intelligence and sagacity far beyond common, there is reason to believe that the whole tribe would have ceased to exist. The myriads of worms, moles, mice, caterpillars, grubs, and beetles which he destroys, are altogether overlooked; but on account of his depredations among the poultry and game, no mercy is shown him.

A circular has been recently addressed to the several botanical establishments in the country, soliciting information relative to the mode of raising the requisite funds, the rules adapted for their government, &c. &c. The queries thus proposed have been drawn up by several influential persons, preparatory to the establishment of a "National Garden," in one of the parks of the metropolis. Attached to this circular are the names of several gentlemen well known and esteemed in the scientific world.

Oxycanthus stricta is to a small garden or pleasure ground, where the extent is less than two thousand square yards, what the Lombardy poplar is in extensive park scenery. Its compact upright habit, with its dark green foliage, fit it, in a remarkable degree, to plant with small groups of round-headed shrubs, especially in connexion with buildings, or near the termination of division walls.

PERPETUAL ROSES.—In this class the Stanwell Perfection is the earliest by a week or ten days. The foliage is small and light coloured, resembling that of the Scotch rose. The flowers are numerous; at first of a neat flesh colour, but in attaining maturity, they become pure white. In the same class, Dn Roi is the next in earliness. The colour is of a light purple, and very double. Both these varieties are admirably adapted for bedding, and would be in flower before most other kinds.

ROSA GALLICA, OR FRENCH ROSE.—In this section, the first to come into flower is rose amouroux. The flower is large, of a high purple, and very double.

Moss Rose.—Here the single lilac is the first in bloom. The colour is a very light rose, and a most profuse bloomer, but being single is not likely to be much admired as a rose.

SCOTCH ROSES.—There is little difference in the earliness of the numerous and beautiful varieties of this section. The Queen of May probably shews its flowers the first. Some of the very attractive varieties are, Flora, semidouble; the base of the petal is dark purple, and very light at the extremity: this is very showy. Proserpine is flesh coloured, very double, and an abundant bloomer. William the Fourth is a semi-double variety, with French white flowers. The foliage is remarkably small, of a dark green, and exceedingly beautiful. Apollo is a pretty double variety; the colours are light, marked with purple. This does not open well.

PITCHER PLANT.—Of all the metamorphoses which the leaf is found to undergo, the singular productions called pitchers are the most curious. in the nepenthes, or true pitcher plant, the pitcher is placed at the extremity of a tendril, terminating a winged petiole. It is crowned with a membranous lid, which is closely shut in the early stages of its growth, but is afterwards raised, and does not again close the aperture. The pitchers, in some species, are six or seven inches in length, and have the lower portion of the inner

surface of a glandular structure, which is constantly secreting a sub-acid liquid. In this liquid a number of insects are continually drowned, and, strange as the idea may seem, it has been conjectured that the providing of such animal manure for the plant is one object which these singular appendages were intended to accomplish.

Linnæus, in his Philosophia Botanica, (§ 335,) has divided the solar flowers into two or three classes :- 1. Meteoric flowers, which less accurately observe the hour of unfolding, but are expanded sooner or later according to the clowdiness, moisture, or pressure of the atmosphere. 2. Tropical flowers, that open in the morning and close in the evening every day; but the hour of their expanding becomes either earlier or later as the length of the day increases or decreases. 3. Equinoctial flowers, which expand at a certain and exact hour of the day, and for the most part, close at another determinate hour.—Besides these particular hours of expansion, flowers have their almost certain months of effervescence. Hence snowdrops have sometimes been called the fair maids of February, the lily of the valley, the May lily, the wild chamomile, the May weed, and the pink, the gilliflower, or July flower. It has also been observed by Linnæus, that the thistle does not expand its flowers before the Summer solstice; the grass of Parnassus before the havharvest, and that the Autumn crocus is the forerunner of cold and wintry weather. Do we not all look for the violet and primrose in Spring, and for the rose in Summer? And are not the words of the prophet of old as applicable to the flowers of the field, as they are to the fowls of the air?

LIMITATIONS OF COLOUR.—It has often been observed by horticulturists, that among different varieties of the same species, a limited number of colours are found; among which are not more than two out of three of the basial colours similarly disposed upon the chromatometer. Thus there are blue and red hyacinths, but none that are pure yellow. There are yellow and red dahlias, but none that are blue. The rule is not free from exceptions, still less does it apply to those flowers which have different bands of colour on their corolla. It has been conjectured that those colours which pass from green through yellow to red, arise from the combination of oxygen with the chromule in its green or neutral state; whilst those which pass from green through blue to red, contain a less proportion of oxygen than the green chromule itself. But as these two series meet in the same colours at both ends, of such a scale it is not easy to understand how this can be the case, since the red would equally result from a union of the chromule with a maximum and with a minimum of oxygen.

THE VERBENA.—The variety of verbena which Mr. Niven has termed arraniana, differs from the original specimens of verbena tweediana chiefly on its lower leaves, which are broader, less attenuated at the base, and less acutely pointed, and also in the colour of the flowers being more purplish. It is clearly a transition link between verbena tweediana and verbena incisa figured by Sir W. J. Hooker, in Botanical Magazine, folio 3625, and hence it may be doubted whether all the three plants ought not more properly to be grouped as one of the species, as Professor Don has done with many forms of fuschia. Our plant partakes in a high degree of the beauty of the allied species, and to the introducers of these charming plants, their countrymen, not only of the present but of all succeeding generations, owe a debt of gratitude which it is alike impossible to calculate or discharge. We hold that those enterprising individuals, who, having left their native land, seek to beautify it, and to give our gardens something of a paradisaical loveliness, by collecting and transmitting the seeds of those flowers which they meet with in their wanderings, confer a benefit which cannot be too highly estimated, and should ever be gratefully acknowledged. The common verbena officinalis, a native of Britain, now neglected, once held a potent sway over the minds of our ancestors. "The Druids, both in Gaul and Britain, regarded the verygin with the same veneration which they bestowed on the misletoe, and like the Magi of the East, they offered sacrifices to the earth, before they cut this plant in the Spring, which was a ceremony of great pomp."—Phillips's Flora Historica.

"Muscos et muscas quarat cui nihil est reliquum," was the objection urged of old against the ingenious investigators of the minuter branches of natural history. Those who have once tasted the pleasure that the examination of these minima of creation affords, will not be deterred from the pursuit by the laugh of ignorance, or the fastidiousness of pretended superiority. "Do not depreciate," writes the amiable Southey, "any pursuit which leads men to contemplate the works of their creator! The Linnæan traveller, who, when you look over the pages of his journal, seems to you a mere botanist, has in pursuit, as you have in yours, an object that occupies his time, and fills his mind, and satisfies his heart. It is as innocent as yours, and as disinterested,—perhaps more so, because it is not so ambitious. Nor is the pleasure less, which he partakes, in investigating the structure of a plant, less pure, or less worthy, than what you derive from perusing the noblest productions of human genius."—Progress of Society, vol. 2. 1 b. 365.

How sweet to muse upon the skill display'd (Infinite skill!) in all that He has made: To trace in Nature's most minute design, The signature and stamp of power Divine.

COWPER.

THE HOVEA.—New Holland is the only region known to produce any species of Hovea, and more particularly the castern side of it. We know not whether any use be made of them by the natives or the settlers, but the latter can scarcely fail to derive a moral advantage from the sight of so much beauty meeting them when they penetrate the thickets of the remote country.

Where God hath poured forth beauty, and the voice Of human love shall still be heard in praise Over his glorious gifts! O. Father, Lord, The all beneficent! I bless thy nume That thou hast mantled the green earth with flowers, Linking our hearts to nature. Thou hast not left Man's purer nature, with its fine desires Uncared for in this universe of thine. The glowing rose attests it, the beloved Of poets hearts, touched by their fervent dreams With spiritual light, and made a source Of heaven-ascending thoughts. Receive, then, Lord, Thanks, blessings, love, for these thy lavish boons, And most of all their heavenward influences, O! Thou, that gav'st us flowers!"

MRS. HEMANS.

LIQUORICE.—This plant, which requires a deep loamy sand, with a bottom of clay at the depth of three or four feet, is chiefly grown at Pontefract, in Yorkshire. The properties for which the liquorice is cultivated are found in the root, which contains an abundance of mucilaginous juice, of a sweet and sub-acrid taste. The pectoral qualities of this juice are well known; and the Pontefract cakes, which are a preparation from the liquorice-root, are in considerable demand, both in England and on the continent. These cakes are not so large as a shilling, and bear the impress of a castle. Liquorice is also a chief ingredient in lozenges, and other medicaments taken for coughs. The liquorice plant, being a native of the warmer climate of Southern Europe, is not always a profitable crop in this country. Great care and good management are absolutely essential; and the land must be of superior quality, well manured, and stocked with choice plants, or the cultivator will not succeed in bringing them to perfection. A wet and cold summer is injurious, and an unfavourable season will produce only one fourth of an ordinary crop, The mode of cultivation in the liquorice grounds at Pontefract is first to trench to the depth of three spades; the bottom to be logsened but not thrown out. Old stable dung must then be spread on the land, in the proportion of from thirty to forty cart loads per acre; and it must afterwards be well dug in. The land is then laid out in beds about thirty eight inches in width, thrown up about a foot in height, and after being raked over, it is ready to receive he plants, which should be put into the ground in March or April.

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THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

No. XXVIII.—SEPTEMBER, 1838.

ORIGINAL COMMUNICATIONS.

VARIOUS REMARKS ON THE SPORTING OF ROSES, &c. BY WM. WILLISON, NEW GARDEN NURSERY, NEAR WHITEY.

Finding that the White Moss succeeded better with me than most other growers, led me to attend more to the cultivation of it and other delicate varieties of that universally admired plant, the Rose; and being successful in their culture, I soon became an enthusiast, anxious to possess all the good varieties I could, especially the varieties of the mossy kind. The Moss de Meaux, and White Moss, attained in one year the height of four or five feet, a circumstance scarcely to be believed, but by those who saw them; and this, again, led me to seek up every kind I could obtain, so that when I had collected eight or ten, I thought myself rich in the moss varieties; but hearing of Moss Perpetual, De la Feche, and Crested Moss, &c., I could not rest satisfied until I had obtained these and others. Having then a good variety, and also a good stock of many of them, I began to observe in some a phenomena which seemed very strange, and had I not witnessed it myself, I should not have given credit to what has been stated respecting the origin of the white moss; but from the information I have obtained, I fully believe it was procured by a sported shoot of the old red moss. I shall now, as briefly as possible, state to you some of the particulars I have alluded to above, that not only one, but even more than two very distinct varieties, have made their appearance amongst mine, by shoots that have entirely changed; and although it may seem incredible, yet I

can give such proof as cannot be doubted, and shall be glad to be called on to point out the evidence to which I refer. Having made this offer, I shall now state the particulars as I discovered them. The first thing which struck my attention was a shoot of the white moss, with some of the flower buds as free from moss, or any bristly appearance, as the common Provence; others, again, in the cluster variety, mossed down one side of the bud, having the other smooth; I took off nearly the whole of this shoot, and having budded it on a few stocks which took very well, two of them flowered the following season, the one was quite free from moss every way, while the other differed in no way from the white moss, the rest of them have this year flowered, and they are in the same way part of them mossed and part not; I also find that the plants which bloomed last season are blooming just the same this, those which were mossed last year also mossed this, and so in respect to the smooth kinds. The next thing I observed was, the colour of one cluster of roses on the old white moss, which were nearly all red; the account I had heard respecting 'the origin of the white moss occurred to my mind, and the circumstances which I have just related appeared to confirm this opinion. I, therefore, resolved on proving this shoot, and last year one of the plants raised from a bud of the shoot in question, produced white flowers, which again led me to doubt the stability of varieties thus obtained. my great satisfaction I find, that this year, the rest of the plants raised from this shoot, are entirely red, differing only, as far as I can see, from the old red moss, by being somewhat less mossed, as is the case with the white variety. This season has furnished me with another of these singular sports, on a plant of the White Perpetual Moss, which is entirely free from moss both in leaf and flower; and, what is still more singular, instead of the flowers being white as in the rest of the plant, and on all the other plants, except now and then a stripe of pink, they are entirely red. last mentioned sport has given me an idea, which to some may seem wild, still, I cannot help entertaining it, and, Sir, were you to see them, you would be led to form the same opinion, which is, that many of the new kinds of moss, and other sorts, are only sported shoots of old varieties. This I may notice at some future time should you deem it of interest to your Magazine.*

[* We shall be most happy to receive it.-ED.]



Although plants, when mossed, may seem to have little relation to those from which they have been obtained, their origin is easily traced, and this is more satisfactorly proved by the curious facts I have noticed. I am quite satisfied that it is nothing more than the old red Monthly Rose; therefore when I get plants from this shoot, as I intend to work a part of it, I shall be glad to send you one of them, or any others I have named, should you think them worth your acceptance.* There are other facts equally as striking as the above, but which I wish to prove more fully before they are made public.

The mode of judging roses, at Horticultural Shows, is often a subject of regret and just cause of complaint, I shall offer an instance to prove what I have asserted. Last year, being called to attend as judge, at a very respectable show, it fell to my lot to judge plants and other things, whilst another party of judges took the florist flowers, amongst which were placed the roses. After spending some time in consultation, the judges placed first, as the best white, the old white Garden Rose, and, which was besides only half double; behind this, was placed a splendid variety of the Globe Hip. Now, Sir, I make not these remarks for the purpose of bringing discredit on the parties concerned, being well satisfied they did the rest of their work well; and with regard to this, one of the judges, in speaking with me afterwards, remarked, "I know nothing about roses;" now, he did the best he could, for he knew not how to do better; and I know not but, that in some case, I might err as far; still, I did the best I could, not knowing better. Now, Sir, if we can help our brethern out of these glaring errors into which they fall, and prevent their being censured for injustice or partiallity, I think it our duty; and in order to do so, should it meet your approbation, I would propose giving you, in another letter, a few rules by which to judge of a good rose; or point out a few properties essential to a show flower. I make this proposal, because I think many, like myself, are frequently mortified in seeing what they cannot remedy, except in this way; and, although there are certain laws by which the rose lover judges of a good rose, still I think, as a fixed rule,

[* We shall be glad to receive them.—ED]



I have never met with anything satisfactory. I shall, therefore, if you think it worth while, send my opinion on the subject.*

WILLIAM WILLISON.

Whitby, August 11th, 1838.

ON THE EARTHING UP OF CELLERY.

BY G. YOUNGE, WHITE LODGE, RAMSGATE.

Cellary is now one of the most important of vegetable productions of which any garden can boast, and is used both in cookery and in sallads to a great extent. Therefore, in the cultivation of this plant every care and attention is likely to be supplied, and, as is no doubt often the case, when skill and practical experience is wanting, much labour is often wasted, and this was the case with myself. In order, as I thought, to produce Cellary in the highest state of perfection at the season of earthing up, I invariably made it my practice to gather the whole of the leaves together before I commenced to earth up the plants, and very often to lay them round with matting. This I not only attended to at the first time of earthing up, but on all future occasions I have, however, discontinued this practice, except at the first time of going over the plants. I have found that my plants grow quite as rapid and blanch equally well; I shall not say better, although I believe it is the case; nor do I find that the earth in entering between the outer leaves has any tendency whatever to cause the plants to rot or decay. I believe the reverse is the case, I have found my plants safe and uninjured when treated in this way, when, as some of my neighbours that had been handled, and the whole of the outer leaves grateered together, and the earth made very close and tight to the stems on every occasion of earthing up the plants.

G. YOUNGE.

ON THE CULTURE OF LILIUM CONCOLOR AND LILIUM LONGIFLORUM.

BY VERITAS.

It is a very just remark that plants display interesting properties and develope beauties, only in proportion to the amount of [* Nothing could be more acceptable.] care bestowed in their cultivation, and I believe this principle to be of very extensive application. The Hydrangea, for instance, as it is seen in common-place culture is scarcely deserving of notice, but place it under favourable circumstances, and it becomes not only interesting, but even to a degree, beautiful; the same might be said of many other old inhabitants of our gardens and greenhouses, who, with every particular of beauty and elegance to recommend them, have been suffered to dwindle away, merely to allay a thirst for novelty; I do not condemn the introduction of new plants, on the contrary, I would encourage it to the utmost, but I certainly do think that the indifference with which plants are passed over merely because they are "old," is a conspicuous feature in the floricultural test of the present day very much to be regretted.

It is my intention to describe the mode of culture by means of which I have grown the Lilium concolor and L. longiflorum to a state of great beauty; the former is an old plant, a native of China. having been introduced into this country upwards of 30 years ago, but is seldom seen in collections, it is, however, particularly beautiful on account of the rich scarlet of its flowers; the latter has been introduced a few years, it brings a beautiful large white sweet scented flower; but to pass on to their culture. When the leaves and seed (if any) are fully matured, water should be gradually withheld till the plants are brought to a state of perfect rest; this rest is indispensable in the cultivation of all bulbous rooted plants, as it tends to strengthen those properties which are to form the attractive beauties of the plant the succeeding season. The bulbs being thus matured may be placee in pots in a cool dry situation beyond the reach of frost, where they may remain till the 2nd or 3rd week in January. They should then be brought into the greenhouse, and be moderately supplied with water for a fortnight. They will then be in a fit state to be re-potted, which should be done in the following manner. The bulbs should be taken out of the pots, and the dry mould and offsets carefully removed. They must then be re-potted according to their size, the largests in pots six or eight inches in diameter. The soil should be composed of about half turfy peat, quarter sandy peat, and quarter well-rotted cow-dung, not sifted but broken with a spade; after potting they should be removed to the greenhouse; water must be supplied moderately till they begin to vegetate, and may then be gradually increased at discretion. Such is the simple mode I have adopted in cultivating these beautiful plants, and as such I offer it to your readers, with this short apology, that whether or not, it is the most proper method of cultivating them, I have been most amply repaid by following it.

VERITAS.

ON THE CULTURE OF CACTEÆ.

BY A LOYER OF SUCCULENTS.

Succulents generally are the least difficult to cultivate of almost any class of plants whatever. All are remarkable for their tenacity of life, Cactus speciosissima for instance, of which shoots three feet or more in length may be cut off, and if desirable, may be kept for months; it may then be planted in a pot of earth kept rather dry, until it has begun to shoot, when it will require to be kept more freely supplied with water. The temperature, when in a growing state, should average 65 degrees. The season of growth is not always at the same period of the year, but generally from April to the end of July. About this time, the genera of Cereus Epiphyllum, and some others nearly allied, are benefited by exposure to the open air. They, of course, prefer a sheltered situation, and ought to be again brought back to the greenhouse, protected from frost, and kept moderately dry until about the end of April or middle of May. By this time the flower buds will have become prominent, and nearly ready to open. Such as present this appearance should be removed to the stove, and kept there till they are nearly in full flower; they ought then to be returned to the greenhouse, but not exposed to cold winds. the temperature be from 40 to 50 degrees, with but little air, so much the better, as the flowers will continue in perfection for a much longer period than if the temperature were higher, and the plants exposed to sudden changes and currents of old air.

It is much to be regretted that so little attention is paid to this interesting tribe of plants. Cacteæ generally possesses great advantage over most other kinds, whether of stove or greenhouse plants, inasmuch as they require but little room, much less atten-

tion in watering, and less easily injured by sudden changes of temperature. The merits and claims of succulents generally begin to be appreciated by cultivators; and in various parts of the country collections are being formed, which in a few years will begin to attract attention, and are certain to be admired.

A LOVER OF SUCCULENTS.

[We have frequently remarked in the pages of this Magazine, on the claims which succulents generally present to the notice of Amateurs and others, who take an interest in the culture of plants; and we feel obliged to our Correspondent for again introducing the subject to the notice of our readers. Since novelty, however, must be a prominent property in the minds of all who are really lovers of flowers, we do not suppose that succulents will ever become fashionable flowers. and, therefore, generally cultivated. This will be apparent from the circumstance that nearly all succulents are slow and tardy in their growth, and require years to attain sufficient magnitude to produce their flowers in any quantity. It is true there are a few genera, such as Cereus Epiphyllum, and some others that are exceptions to this rule. but with most other kinds six or ten years must pass over before the plants attain such size and character as to render them interesting in appearance. Not so with Geraniums, Petunias, Verbenas, and a host of other plants remarkable for their rapid growth, free and abundant production of blossom. It is, therefore, probable that succulents will only be cultivated by a few, and yet admired by all. Public and private gardens of permanent importance may, when circumstances permit, take up the cultivation of this family; and we know of no tribe of plants equally calculated to excite so much interest and attention. when properly grown. But before this can be the case, they must attain sufficient size to develope their naturally grotesque and curious forms.

Very extensive collections are already formed both at Chatsworth and Wobarn Abbey, and to these collections numerous additions are continually being made; so that in the course of a few years the succulent plants at these two places will be the most prominent features.

At Woburn Abbey, the collection amounted in 1835 to nearly 700 species; and since that time our friend Mr. Forbes has been several times on the continent, and we doubt not several hundred species have since been added; and this is also the case at the Duke of Devonshire's princely place, Chatsworth House.—Ed.]

ON THE CULTURE, COMPOST, &c. &c. SUITED FOR THE GROWTH OF GERANIUMS, VERBENAS, LOBELIAS, &c.

BY J. T.

Being one of those who admire flowers, and the wonderful productions of nature in all its endless variety of form and colour permit me, in my humble way, to suggest a few hints, which, although



they may not appear to you as deserving of any consideration. I nevertheless believe, and feel confident, that there is a large number of persons who, like myself, feel highly interested in plants whose garden consists of a few square yards, and are, therefore, under the necessity of very frequently adopting plans for the preservation and culture of favourite plants altogether unknown to those who know but little of the want of room and suitable habitations. Lest you deem my communication unworthy of insertion in the Floricultural Magazine, I shall confine my remarks to the culture of plants in balconies connected with lodging rooms, sitting apartments, &c. Of course such situations vary in size; but for windows of ordinary dimensions I prefer boxes fitted to the size of the balcony, generally from four to five feet in length. The breadth or width of the boxes may also be varied according to circumstances, probably from ten to eighteen inches, and about fifteen inches in depth: The boxes themselves may be formed of any ordinary wood, and may be plain or ornamented, depending on the taste of the proprietor. The compost I use is, perhaps, all that is worth relating in this paper. In the spring, any time during April, I clear out these boxes, and fresh pitch the insides; and when hard and dry, I proceed to fill them, commencing with some broken potsherds, brick or stone; I place a layer of these, about two inches in thickness, over the bottom of the box, which is previously perforated with several dozen holes, about an inch in diameter. Provision being thus made for the free escape of all superfluous moisture, the boxes are then filled with the compost, which I prepare in the following manner:-First one part of common garden earth, an equal quantity of marley clay, in lumps of about two pounds in weight, the third part consisting of sand, pieces of stone, and manure; this is laid up during the winter, and once or twice turned, care being taken not to break the lumps of clay. At the time it is put into the boxes, it ought to be as dry as possible; it is, therefore, desirable to have it kept under cover, for it is of the utmost consequence to have it put into the boxes in a dry state. It may be enquired, why introduce lumps of clay amongst mould; to this I can offer no other reason than that it appears to me the clay is cool and retentive of moisture, a circumstance of great importance where the bulk of earth in which the roots of the plants are placed is

mecessarily small. The manure, sand, stones, and common garden earth are, when blended together, of a loose open texture, by means of which the water passes freely off; and yet by these lumps of clay being interspersed through the soil, they continue to hold moisture in greater quantity than the surrounding earth; and as the latter dries, it is kept cool and moist by the clay.

Now, Mr. Editor, should you deem the above deserving of publication, use it; if not, you will not disoblige by laying it aside.

J. T.

NOTES BY THE EDITOR.

In looking over the Gardening and Floricultural periodicals for August, we find a highly interesting, and well-written paper, in Paxton's Magazine, on the "Pleasures of Gardening." The writer informs us, that gardening has ever been the favourite amusement of the most eminent and worthy of mankind. It is equally suited to the most illustrious prince and the meanest peasant, and is enjoyment and occupation for which no man can be too high or too low. Flowers have an interest to man in whatever condition he is found. The savage of the forest, in the joy of his heart, binds his brow with the native flowers of his romantic haunts, and a taste for their cultivation increases in every Country, in proportion to its advancement, civilization, and refinement. A love for flowers commences with our infancy, and man appears to be the only being capable of enjoying them. The infant, no sooner walks, than it desires to plant a flower in the earth, probably removing it many times a day to where the sun shines brighter; the school boy finds delight in cultivating his little plot, and if in manhood our attention be demanded, by more active, but less innocent occupations; yet, when age requires us again to retire from public life, the attachment to flowers returns to sooth the latter period of our life. In the growth of flowers, man beholds the wonderful process of creation, wisdom, and power. The most claborate treatise must fail to communicate a correct idea of the pleasures of gardening. They must be tasted to be highly appreciated; nor will the mind ever become satiated, but will rove in search of nutritive sweets, extracting fresh stores of wisdom and

pleasure from each successive object, till it succeed in amassing that which constitutes men truly rich, an extended acquaintance with his Creator's works.

In an article in the same Magazine, there is a very useful and practical paper on the influence of climate on plants. In speaking of the genus Erica.

It recommends that it should be cultivated in a house devoted entirely for the purpose, and that it is quite impossible to cultivate heaths to perfection, when promiscuously mixed in the same house with other plants; and that in the culture of this genus, no skill, care, or attention, will compensate for the want of shade from the mid-day sun. This becomes the more needful, since by far the greatest number of species are found naturally inhabiting shady situations. It is, therefore found, that whenever the rays of the mid-day sun are allowed to fall freely and suddenly on the stems of the plants, to many kinds, instant death is often the result; and those which prove sufficiently hardy to escape death, are generally attacked with meldew. It is also observed, with regard to orange trees, that the houses set apart for their culture are often too dark, having opaque roofs, with a few windows in the front. This is certainly too often the case, and although in the more modern erections for the culture of this plant, the evil has been in some degree avoided, yet it is but too evident, that the importance of solar light the cultivation and growth of all plants whatever, is far from being rightly appreciated. Mr. Paxton also alludes to a circumstance deserving of notice, namely—the absurdity of bringing orange trees from their dark and gloomy abodes, and exposing them to the rays of the sun during the summer months, which very often proves highly injurious to the trees themselves, the leaves either falling off, or becoming so brown, as scarcely to recover for years:

In the monthly notices of new plants cultivated, &c. in the Nurseries and neighbourhood of London, and which is an interesting part of this Magazine, are given some very instructive hints respecting the culture of Tropæolum tricolorum. It has been discovered in Mr. Knight's Nursery, King's Road, Chelsea, that the bulbs of this plant increases with much greater rapidity when placed on the surface, instead of being plunged under the earth. It is also found of great value to the small and tender roots of

Tropæolum, to place the pot in which they are grown within another pot, this obviates the necessity of using pots of so large a size, as would otherwise be the case, the outer pot preventing the rays of the sun from falling on the inner pot; the roots are therefore kept in a much cooler state with a smaller quantity of earth, a circumstance of great importance to the culture of this and all plants remarkable for their small and delicate roots; which, in order to preserve them from being overheated, and rapidly dryed by the influence of strong sun, are often over potted, and therefore, in great danger of being saturated, by inattention in over watering, thereby causing the roots to decay.

In a communication to the Gardener's Magazine, eight or ten years ago, we recommended the adoption of this plan with heaths Epacris, &c., having small and tender roots, pointing out the advantages to such plants in having their pots placed within one of larger size, by which the roots were kept cool, and we still regard it as of great importance to delicate or sickly plants.

GARDENER'S MAGAZINE.—The first article is an interesting account of Hoole House, near Chester, the residence of Lady Broughton. The rockery at this place is the grand feature, and is indeed altogether unique, being unequalled by any thing of the kind in the kingdom. It would appear that this rock work was executed from a model, designed to represent the mountains of Savoy, with the valley of Chamouni. The foundations have given way at various times, but such was the perseverance of her Ladyship, that the whole was again speedily restored. It has been a work of years, and wholly superintended by Lady Broughton, throughout the tedious opperations, extending to nearly ten years. The execution and arrangement of this rock-work displays the most consummate judgment and good taste. At the highest part, it is from thirty to forty feet in height, and so admirably are the various prominances, valleys, &c. adjusted and proportioned to each other, that we have been frequently assured, by competent judges, that its effect on them was altogether beyond description. On some parts of this rock-work, white marble is introduced, intended to represent snow, and spa for the glazier. On this rockwork, her Ladyship cultivates an extensive collection of the rarer Alpines. Mr. Loudon has given a very elaborate and interesting description of Hoole House, illustrated with ten wood engravings.

The destruction of the fine Elm trees, in Kensington Gardens has for some time been a subject of regret to those who frequent these delightful grounds. It is the opinion of Messrs. Victor, Andonin, and Spence, that the destruction of the trees is caused by the attacks of Scolytus, burrowing into the bark, by which the tree is brought into a state of disease, by the female insect depositing her eggs within the bark. The insect is of the beetle kind, little more than a quarter of an inch in length. A valuable paper on this subject is here communicated, by Mr. J: O. Westwood, Secretary to the Entomological Society of London.

There is also a paper by Mr. A. Murdoch, on the treatment of the Scotch pine, at Huntly Lodge, Banffshire. Mr. Murdoch disapproves of pruning Scotch firs after they have attained a large size; he recommends pruning when quite young, and to take off only one tier of branches annually.

William Howison, M.D. recommends fir cores for lighting fires. In a communication on the pruning of roses, by James Cuthill, he says, he was unsuccessful until it occurred to him last Autumn, that, instead of practising the plan usually followed with common garden varieties in the open ground, namely, leaving two buds of the same years wood, he disregarded the length of the shoot, and left two good buds in whatever part of the shoot he happened to find them. Mr. C. observes that by this mode he had cabbage roses with 30 blossoms on a single plant, and moss roses with as many as twenty. He prefers autumn for pruning, when the plants are well cut back,

Mr. Joyce, Market Gardener, Camberwell, says, in describing his mode of forcing strawberries, he mails laths along the edges of the shelves on which he intends placing his strawberry pots, and on this shelf, a thin layer of earth is spread, and on this the strawberry pots are placed. This thin layer of earth being kept continually moist by the water which escapes from the pots, the roots very soon pass through the bottom of the pot, and diffuse themselves among the soil on the shelf. This, of course, must add very greatly to their vigour. We think it a most excellent plan, and plants placed in the hot house on the 21st of March, produced ripe fruit by the 21st of May.

Mr. Loudon informs us that the edition of Miller's Gardener's Dictionary, undergoing revision by Mr. G. Don, is stopped, without being completed. Four vols, have been published.

Arborbtum et Fruticetum Britannicum.—This work contains portraits from nature to a scale of from a quarter of an inch to a foot, of all the trees which endure the open air in Britain. The Editor says that, with very few exceptions, he has seen every tree and shrub described in the work. This will appear no slight labour, when it is known that it comprizes eight volumes. having about 3,000 pages of letterpress, and upwards of 400 8vo plates of trees, and more than 2,500 wood cuts of trees and shrubs. The price of this book is now raised to £10. This. of course, is to be regretted; the price rendering it quite beyond the reach of gardeners generally. There are but few who do not, in some way or other, feel an interest in trees. To such we would say, if your means will enable you, purchase this work. There is. certainly, no other extant by which it can be compared. It is a book of most varied and extensive interest, and had Mr. Loudon been known only as the author of this truly splendid work, he would have rendered essential service to the age in which he lived.

THE VISITORS' COMPANION TO THE BOTANIO GARDEN, GLASVENIN.—It appears our friend, Mr. Niven, has provided the visitors to these gardens with a guide, or book, illustrative of various objects of interest in the garden. We quite agree with Mr. Loudon in thinking it an excellent idea in producing such a book, and we are glad that others have done so as well as ourselves.

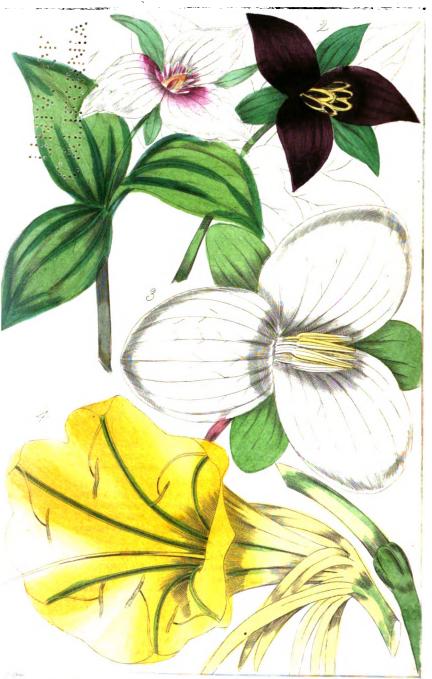
SOME REMARKS ON ACCELERATING THE INCREASE OF GOLD FISH

BY Q. Q.

The mysterious and fabulous accounts so often repeated respecting the Gold Fish, common in our ornamental ponds, has often excited my curiosity to become acquainted with the habits of this interesting and beautiful fish. As my present purpose is brevity, I shall only relate a circumstance which I believe is not generally known respecting their habits of breeding. It is a well known fact, that warmth adds much to their tendency to increase, hence their abounding in such numbers in ponds, in Lancashire and other parts of the country connected with steam engines, where the water is kept at a high temperature. Although this is evidently congenial to their habits, so far as regards the rapid increase of the

species, a high temperature is not however indispensable even for this purpose. I have found them to multiply in great numbers in pools and ponds, where the water was at all times of the ordinary temperature. I believe, however, that their tendency to increase is greatly promoted by a circumstance, which it is my present purpose to notice. In a small ornamental pond in my pleasure ground, in which I have for many years kept some Gold Fish Cuprinus auratus. I have been in the habit of annually placing a bundle, of about fifteen inches in diameter, of birch twigs. and fastening them to the bottom and at the side the most exposed to the sun. That the fish would not have produced spawn had the birch twigs been omitted to be placed in the pond, I by no means wish to assert, I am, however, fully persuaded that since I adopted this means, they have become more prolific. The spawn has on all occasions, without an exception, been deposited in these twigs. It does not appear to be of so much importance to the spawn itself, as to that of affording protection to the fish in their earlier stages of growth. For about three weeks they may be seen hovering around the vicinity of their birth-place. Seldom venturing more than a few inches beyond the outer edge of the bundle of twigs.

[The Cyprinus is found in great abundance in the rivers and fresh water lakes, in China, and it is stated by some, that they inhabit the fresh water rivers of North America, and although individuals have been found in the rivers of this country, it has been under such circumstances, as to leave little doubt of their having escaped from ponds, where they had been preserved. The singularly splendid colour of the C. awatus, or Gold Fish, resides in the membrane, lying immediately beneath the scales, and is subject to the most remarkable variations, being at one time of a bright gold or orange, and at others bronze black or silver. When they exhibit the former colour, they are known as Gold Fish, and when of the latter, Silver fish. As we do not remember having related a circumstance which came under own observation during the winter between 1825 and 1826, it may be worth while to notice it here. In a stone cistern capable of containing about thirty gallons of water, and placed on the surface of the ground were kept three Gold Fish. This cistern stood in the plant ground, connected with the flower garden at Britton Hall, near Wakefield. The winter in queston, was remarkable for its severity, and intense frosts, and the fish were forgotton until the cistern had, for some time, been covered with ice. It was thought too late to rescue the fish, which were supposed to be dead. In about three months afterwards, when the whole of the ice had disappeared, the fish were found not only alive, but in the highest state of health. From the small quantity of water, and the exposed situation of the cistern, it is difficult to believe that any part of the water remained in a liquid state--EDITOR.]



1 Tollian fiction.

Burely Congard brum.

REFERENCE TO PLATE XXXI.

TRILLIUM PICTUM, painted flowered Trillium. (Fig. 1).

T. ERECTUM. (Fig. 2).

T. GRANDIFLORUM (Fig. 3), large flowered Trillium.

NAT. ORD. MELANTHACEÆ. CLASS HEXANDRIA TRIGYNJA.

The Trilliums are exceedingly beautiful plants, deserving of the greatest care. Their culture is often found difficult, and very few cultivators succeed in growing them to perfection. Mr. Cooper, from whom we obtained the specimens now under consideration, preserves his plants in the highest vigour and beauty. They are planted, we believe, under the shade and shelter of some large plants of Rhedendron, where they flower annually in great perfection. They are natives of North America, and the name is derived from the remarkable circumstance of the calyx having three sepals, the carolla three petals, the pistle three styles, and the stem three leaves.

ISMENE AMANCAES. (Fig. 4).

NAT. ORD: AMARYLLIDEÆ. CLASS HEXANDRIA MONOGYNIA.

The Pancratium Amancaise or Ismenia Amancaes is a bulbous plant, more or less known in stove collections for upwards of 20 years, but still scarce and rarely met with. Notwithstanding its very great beauty, presented by the deep and rich yellow colour of its short lived flowers, we should scarcely have thought it deserving a place in this Magazine, but for the highly interesting associations connected with its history, an account of which, owing to the kindness of our friend Mr. Cooper, we are enabled to append to our own remarks. The Amancaises in cultivation requires similar treatment to that suited to most other bulbous plants. A season of rest is indispensable; the soil which we have found it succeed in is sandy loam. The bulb is seldom large, and a pot of moderate size only is therefore best suited to its growth. During its growing season it appears to require the temperature of the stove about 70 degrees, but when it has matured its bulb and leaves, which soon afterwards begin to decay, the bulb ought to be removed to a cool situation, and kept dry till the following season.

We extract the following highly interesting account of the Amancaes

from a Visit to the South Seas, by C. J. Stuart, M.A.:-

The Amancaes, an annual festival celebrated at Lima, on the 24th of

June, occurred yesterday.

It is something similar to our "May Day," the occasion of it being the height of bloom, at that time, of a flower peculiar to Peru, called "The Amancaees," to gather which the citizens of every class, in the afternoon of the day, hasten as to a gala, to a spot in the vicinity of the city, deriving its name, as well as the festival itself, from the flower, because found in a greater abundance there than in any other place.

After an early dinner with Mr. Radcliffe, our party, principally on horseback, set off. It was with difficulty that a sufficient number of horses could be secured, as every animal of the name and similitude in the city is put

in requisition at this time, if at no other during the year.

At the end of two miles, we found ourselves close to the wild and naked hills encircling Lima on the north and east, and immediately in front of a gorge between two of these, terminating at the distance of half a mile against the steep acclivity of a third. The whole were bare as volcanic ashes and and could make them, except where the bloom of the flower which had called the crowds together, exhibited here and there a tinge of yellow (for this was the "Amancaes," the spot of our visit), and over the precipitous



sides of which small parties were already scattered; and even horsemen, at the seeming hazard of their necks, clambering to points fitted apparently

only for the footing of the goat or chamois.

The general appearance of the multitude at the distance first seen, was that of a field in America, at a general militia muster, or of a race course in the sporting sections of the land; and a nearer view, save in the variety of colour and novelty of costume, did not lessen the resemblance. There was the same bustle and hum of laugh and talk, the same pressing and hurrying from one place to another, the confused sounds of musical instruments in different directions, and the loud and course mirth of the booth and the stall.

Every person was decorated with the "Amancaes," and clusters of the flowers were placed in the bridles and harness of the horses, as well as in the

hats and head dress of the riders.

The head of the valley commands a striking and fine view of Lima; three miles distant, the intervening ground being lower than that on which the city stands, and containing numerous gardens and fruit yards, besides the groves of the Almeda presents a verdant foreground.

On remounting, we rode to a rancho, or booth, for the purpose of tasting a common drink of the country, called "chichi." It is made from new corn, ground, and tastes much like the beer, at the distillery of whiskey, after fermentation, and before distillation has taken place. The primitive and favourite preparation of it among the Indians was by chewing, in the manner of the Ave, at the Sandwich Islands, a fact which I was satisfied not to have learned till after my curiosity in tasting it had been indelged.

By this time the scene around had reached the height of interest, in its novel and varied exhibitions. In addition to hundreds of cales, and the clumsy and antique carriage in general use, there were two English chariots, two barouches, two gigs, and a few other foreign vehicles on the ground. One or two Scotch and English ladies, on horseback, were also distinguished in the throng, and a few Spanish ladies mounted in similar dresses and attitudes, while other natives, male and female Peruvians, both Spaniards and Indians, negroes and negresses of every shade, and in an endless variety of costume, some on foot, and others on every kind of animal, from the noblest of horses to the sorriest jackass, were scattered in thousands around.

In coming from the city, I had noticed at the termination of the road where we entered the Amancaes, a kind of tent, with crimson hangings, at which there was dancing and music with a crowd around. The throng pressing forward, however, was so great, that I merely observed a man and woman running to the carriages and horsemen passing with plates extended for money. On our way back, we stopped here for a moment, the musicians were still playing the instruments, a violin, flute, and rude harp, the air a monotonous repetition of a few wild notes. But what most astonished and affected me, and what is perfectly characteristic of the religious views and state of the people, was to behold a table in front which was spread with the flowers of the Amancaes, and at which was seated a full length waxen figure of the Saviour of Men, crowned with thorns and streaming with blood, representing him who was emphatically "a man of sorrows and acquainted with grief," thus presiding over a scene of mirth and folly, and patronising exhibitions that, to say the least, bordered on sin.

The sight induced a sadness which all the gaity of the thousands we met and passed on our way to the city, could not dissipate. And it was only with the deep tones of the vesper bell falling upon us from the towers of the Cathedral, as we entered the royal square—invoking from all a moment at least of solemnity and prayer—that a change of thought and feeling came over me. Of all I have seen and known of the Catholic Church and its services, this observance of the evening orison, is the most interesting and

most impressive, and one in which no one can refuse to join.

At sunset, the great bell of the Cathedral is slowly tolled three times, when in a moment the stillness of death, both within and without doors, spreads over the city, and all the thousands of her inhabitants assume the attitude of prayer. Whether walking or riding, whether buying or selling, whether singing or dancing, all at the instant suspend their conversation,

their business, and their amusement, and with uncovered heads stand in the presence of their Maker and their Judge. Were the observance as sincere and heartfelt as the signal for it is striking and solemn, the effect would be salutary indeed. But among those who understand the appointment best, in a majority of cases, it is to be feared it leads only to the counting of the beads of a rosary, or to the repetition of an "Ave Maria," while those from more enlightened lands, who know better than to trust for a blessing to the efficacy of these, in too many instances, there is reason to believe, waste the moment in idle gaze.—A Visit to the South Seas, by C. J. Stewart, M.A.

NOTICES OF NEW PLANTS.

ILLICIUM FLORIDINUM, (Florida Anniseed tree.) Paxton's Mag.

NAT. ORD. MAGNOLIACEE. CLASS POLYANDRIA POLYGYNIA.

This plant is a native of West Florida, and has been in the collections of this country ever since 1766; but as it is seldom seen in a very free growing state, and cuttings requiring a long time to root, the plant is not often met with.

The Generic name is taken from "illicio," to attract, the whole plant possessing an agreeable perfume. In Japan they use the powdered bark as incense for their Idols. In China it is used for seasoning dishes. "The bark finely powdered, is said to be used by the public watchmen as a chronometer for measuring the hours, by its sparkling at certain intervals in a box, in order to direct when the public are to sound. It appears to us to require nearly the same cultivation as the genus Camellia; that is, as far as relates to light moisture and soil, not needing the change of temperature, which is usually given to that genus. A situation in a house, with a western aspect, an abundant supply of moisture to the roots, and also over the leaves, during the growing season. A compost of loam and heath soil, in which the latter should predominate, with careful attention to potting and drainage, would doubtless tend much to the improvement of this plant, and also its cultivation in a superior manner to that which has hitherto been witnessed. We would also suggest that this plant be turned out into the border of a greenhouse or conservatory, as it is more than probable, that in such a situation, it would exhibit itself in a new and far more interesting character, than if confined in a pot, as it has gene. rally been up to the present time."

EPIMEDIUM MACRANTHUM, large-flowered barren-wort. [Paxton's Mag. NAT. ORD. BERBEBACEE. CLASS TETBANDEIA MONOGYNIA.

A hardy alpine of great merit. The figure was taken at Chatsworth last May, where it bloomed, after having endured with impunity our last severe winter out of doors.

"Among the numerous individuals who are engaged, either for pleasure or emolument, in exploring the botanical treasures of unknown regions, and from their diffusing throughout the world, the various new and valuable plants which they are fortunate enough to discover; Dr. Siebold is peculiarly entitled to honourable mention for his zealous exertions in Japan, which have farnished to the collections of Europe, during the past few years, a greater number of truly beautiful plants than had been previously received for a considerable length of time; several of these plants, have at various times, appeared in our Magazine, and the annexed figure represents one of a peculiarly interesting character: still there are a vast number which have never yet flowered in this country, and others which have not been received from the Continent.

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COMESPERMA GRACILIS, Slender Comesperma.

[Paxton's Mag.

NAT. ORD. POLYGALER. CLASS MONADELPHIA OCTANDRIA.

This graceful and elegant little plant flowered in 1836, for the first time, in the collection of Messrs. Younge, of Epsom; it was from seeds in 1834, that had been casually raised by them, very probably from the Continent of Australia. "Its graceful and elegant habit, the number, the beauty, and the durability of its blossoms, combine to render it at once a desirable and ornamental feature in any collection.

ECHINOCACTUS OTTONIS, Mr. Otto's Spring Cactus.

Bot. Reg.

NAT. ORD. CACTER. CLASS ICOSANDRIA MONOGYNIA.

This pretty little species flowered in the Horticultural Gardens, where the figure was taken; it is not uncommon in collections, where it flowers in July and August. "According to Sir W. Hooker, it is a native of Brazil; but according to Ofieffer, a Mexican plant."

RHODODENDRON ALBIFLORA, White-flowered Rhododendron.

Curtis's Mag.

MAT. ORD. ERICKE. CLASS DECANDRIA MONOGYNIA.

A very distinct species of Rhododendron, discovered by Mr. Drumwond, in the alpine woods of the rocky mountains, and seeds obtained by Dr. Graham, from the officers of that expedition, have now produced their delicate cream-coloured blossoms.

ECHIUM GIGANTEUM, Gigantie Viper's Bugloss.

[Paxton's Mag.

NAT. ORD. BORAGINER. CLASS PENTANDRIA MONOGYNIA.

"With the great majority of plant cultivators of this country, the preference for particular flowers is almost as fleeting and inconstant as that of dress; and as in that fickle propensity, the objects which at one time excite the most lively interest, and are held in the highest estimation, are after a time displaced by other favourites, and sink into apparent oblivion; till on a sudden, they are again elevated to their former position, are invested with their previous or even additional charms, and carry away the minds of men, willing and enthusiastic captives, to their attractive influence."

"The primary notice or subsequent neglect of the present plant, as well as of many of its allies, prove that it has passed through two of the changes above delineated; but with regard to the re-action of the public opinion in its favour, we are not aware that any such circumstance has transpired, and being fully sensible of its merits, we have taken the present opportunity of introducing it, by a drawing to the attention of our readers, as an old plant,

that is highly worthy of extensive cultivation."

SOLANUM COMPANULATUM, Bell-flowered Solanum. [Curtis's Mag.

NAT. OBD. SOLANER. CLASS PENTANDRIA MONOGYNIA.

This beautiful species of Solanum was found by Mr. Brown, near Port Jackson, and flowered July, 1837, in the Edinburgh Botanic Garden, where the figure was taken.

CLERODENDRON FRAGRANS, Fragrant Clerodendron. | Bot. Reg.

NAT. ORD. VERBENACEE. CLASS DIDYNAMIA ANGIOSPERMIA

"Few plants are more deserving of cultivation than this, which in China is one of the handsomest of their flora, as is attested by a Chinese drawing, preserved in the library of the Horticultural Society."

Although the single variety is more frequently to be met with, it is by no means so desirable a plant, the present having a much more beautiful head of flowers, and little inferior in fragrance. Although a native of the stove, yet during the summer months, if planted in a warm border, it will continue to flower well, until the first frost; to grow it well in a pot, care must be

taken to give it plenty of room, as well as to keep it free of insects, which are very liable to infest its dense head of flowers.

EUPHORBIA JACQUINIFLORA, Jacquini-flowered Euphorbia or Spurge.
[Curtis's Mag]

NAT. ORD. EUPHORBIACEE. CLASS MONÆCIA MONANDRIA.

This very handsome species was obtained from the Berlin Botanic Gard dens, under the present name, but unfortunately had no other reference; it flowered in the Glasgow Botanic Garden during the winter months, attaining the height of from four to five feet, stem slender, branching only at top.

The fine rich red of the involucre, contrasts admirably with the full and bright green of the foliage, which is only on the upper part of the branches.

EUPHORBIA RIGIDA, double-glanded Euphorbia or Spurge. [Bot. Reg. NAT. ORD. EUPHORBIACEM. CLASS MONMCIA MONANDRIA.

This plant is particularly well adapted for rock work, where, if a little care is taken to protect it from the rains or superabundance of wet, will be found hardy, and survive any ordinary winter with such treatment, and be a welcome and very handsome species.

"A prostrate rigid glaucous-leaved plant, found wild by Bieberstein, on dry declivities, in the neighbourhood of the Black Sea, flowering in May and June; by Gussone, on low mountains and barren Calcareous hills, in many places in Sicily; and by Tenore, in various parts of Calabria, and the Abruzzi in similar situations."

"I presume this is undoubtedly the Tithy malus Myrainites legitimus, well figured by Clusias; and it should also be the E. biglandulosa of Gussone, as Tenore asserts; but the former of these two Italian authors, describes his plant with rather erect stems (Caules erectiusculi), which is at variance with the species before us. It seems, however, quits to agree with E. rigida, of Bieberstein, to which Tenore refers the Sicilian, the E. biglandulosa."

MAXILLARIA ROLLISSONII, Messrs. Rollisson's Maxillaria. [Bot. Reg. NAT. ORD. ORCHIDEE. CLASS GYNANDRIA MONANDRIA.

This pretty little Orchidious plant was imported from Brazil by Messrs. Rollisson, with whom it flowered in August, 1837; it much resembles M. Stapilioides, differing in colour, and curious creat, which stretches across the lip from one side to the other.

CYRTOCHILUM MACULATUM, Spotted Cyrtochilum. [Bot. Reg.

NAT. ORD. ORCHIDER. CLASS GYNANDRIA.

This plant first flowered in the Horticultural Gardens, where it had been received by Mr. Hartweg, who found it near Vera Cruz. It was subsequently communicated by Messrs. Rollisson, and I have also received it from Chatsworth, and from Mr. Barker, of Birmingham. When it first flowered, there were those who took it for the Oncidium tigrinum, of La Llave and Lexarza, a very different plant, with a reniform lip, placed upon a long stalk.

CORYCIUM OROBANCHOIDES, Broom-rape Corycium. [Bot. Reg.

MAT. ORD. ORCHIDEÆ § OPHRYDEÆ. CLASS GYNANDRIA MONANDRIA.

This curious plant is a native of the Cape of Good Hope, inhabiting sandy places, and flowering in September and October.

"It agrees pretty well with the species described by Thunberg, under this name, but not entirely, for that Author speaks of the upper sepals being somewhat notched at the end, and of a plant a foot high; it is, therefore, possible that two species nearly allied, may exist at the Cape of Good Hope, and while this figure represents one of them, the barbarous drawing in Brande's journal, as above quoted, may have been intended for the other."

The plant blossomed in the collection of J. Rogers, Esq, at Streatham

where the drawing was made, and is probably, the first instance of a Corycium having flowered in Europe.

ZYGOPETALON MURRAYANUM, Mr. Murray's Zygopetalum.

Curtis's Bot.

NAT. ORD. ORCHIDER. CLASS GYNANDRIA MONANDRIA.

This new species of Zygopetalum, was found by Mr. Gardner, at an elevation above the sea, of nearly four thousand feet, who named it in compliment to Mr. Stewart Murray, of the Glasgow Botanic Gardens, who having, about the middle of last year, received bulbs of this plant from Mr. Gardner, and succeeded in flowering them in the early part of the winter.

CATTLEYA MOSSIÆ, Mrs. Moss's Superb Cattleya.

Curtis.

NAT. ORD. ORCHIDER. CLASS GYNANDRIA MONANDRIA.

" W_{θ} wish our plate could do justice to this most magnificent of all Orchideous plants."

The flowers are very considerably the largest yet known in any of this superb family; the colour is equally striking, with which no art of the pencil can attempt to vie, and we may add, that the fragrance is most powerful, resembling that of Gymnadenia Conopsea, but is much stronger. The diameter of this splendid flower, is from the tip of the upper sepal to the tip of the labellum, seven and a half inches, from tip to tip of the two opposite petals, eight inches and a half! each petal being a little more than

four inches long, and two inches and a half in breadth: twenty-four inches in the circumference of the entire blossom!

The present plant was introduced through the medium of George Green, Eaq., of Liverpool, in September, 1836, from La Guayra, s country which, were it properly investigated, would amply repay the collector by many other novelties.

REVIEWS AND MISCELLANIES.

A Practical Treatise on the Construction of Stoves and other Horticultural Buildings, and on the Principles of Heat, as applied to Hothouses, Greenhouses, Conservatories, and all other Horticultural Erections, with useful remarks and suggestions on the fluid employed, and the apparatus best adapted to their applications. Illustrated with twenty six Wood Engravings. By J. W. THOMPSON, Nursery Landscape Gardener, and Hothouse Designer, near Beulah Spa, Croydon, Surrey.

This Treatise consists of forty-eight closely printed octavo pages, and since it is the result of close personal observation, it will be found well worth purchasing. It contains much useful matter, of varied and extensive application, on the multifarious subjects on which it treats. We can strongly recommend it to those intrusted with the superintendance of alterations or new erections of hothouses, and the mode of heatingby hot water. It will also be found exceedingly useful to all who have the care and management of hothouses, hot water apparatus, &c. Mr. Thompson's Treatise is written in a plain and pleasing style, and takes not only a comprehensive view of the principles of constructing and warming horticultural buildings, but enters most minutely into the numerous subdivisions of the science. Although the contents of the Treatise is embraced within the limits of 48 pages, so varied are the subjects treated of, that we cannot offer an apology for what we consider a decided omission, namely, the entire absence of any index.

The Rose Amateur's Guide. Containing ample descriptions of all the fine leading varieties of Roses; regularly classed in their respective families, their history, and mode of culture. In two Parts.

Part I. The Summer Rose Garden. The whole arranged so as to form a companion to the descriptive catalogue of the Sawbridgeworth collection of Roses; published annually by T. Rivers, jun. Published for the proprietor, and sold by Longman, Orme, and Co.

As a practical and useful treatise, this is without doubt the best of the kind that has yet been published in this country. Mr. Rivers is well known, at least to many of our readers, as the most scientific, intelligent, and by far the most extensive grower of Roses in England; and his "Guide" will be invaluable to all who cultivate, or are in any way interested in acquiring a knowledge of the culture, propagation, and history of this family—certainly the most splendid shrubs in the known world.

Mr. Rivers has classed his Roses according to the following order, with a descriptive notice, history, and general remarks to each section or class.

The classes are-

PART I.

Provence or Cabbage Roses.
Moss Roses.
French Roses.
Hybrid Provence and French Roses.
Hybrid China Roses.
Rosa Alba.

Damask Roses.
Scotch Roses.
Sweet Briarz.
Austrian Briars.
Double Yellow Rose.
Climbing Roses, in six divisions.

Divisions.—Ayreshire; Multiflora; Evergreen Sempervirens; Boursalt; Banksiæ; Hybrid Climbing.

PART II.

Perpetual Roses.
Bourbon, or L'ile de Bourbon.
Chinese Roses.
Tea-scented Chinese Roses
Miniature or Dwarf Chinese Roses.

Noisette Roses. Musk Roses. Macartney Roses. Rosa Microphylla.

We have to apologise for omitting to notice Mr. Rivers's "Guide" earlier; but circumstances rendered the delay unavoidable, and we now take the opportunity of bringing the book before our readers, at a time when they will be able to decide on the properties of the Autumn Roses especially. These, we think, deserving of far more attention than has hitherto been paid to them.

Mr. Rivers, in his introduction, gives a very correct idea of the character and nature of his book, and says, "So many Rose Amateurs have complained that it is extremely difficult to select from the multiplicity of Roses now under cultivation such varieties as are distinct and adapted for particular situations, though accurately enough described in a catalogue, I have presumed some practical observations might be acceptable. I have also long felt the conviction, that a mere enumeration of the form and colour of the flower is not enough, particularly for the Amateur with a small garden; for he, of course, wishes to select a few varieties, and those well adapted to the situation they are to occupy. As a guide, then, to the lovers of Roses, this little treatise has been written in the few leisure moments allowed me by the unceasing cares of a general nursery business. I give the result of twenty years' experience, gained by the culture of choice Roses on a much larger scale than any where in Europe. I say this advisedly, as from five to six acres are here devoted to the cultivation of select named varieties. In noticing and describing the different Roses in the following pages, though a cultivator of them for sale, I have endeavoured to lay aside all business prejudices, and only to view them as an admiring Amateur. Varieties inserted in the catalogue, and not noticed here, are, in many cases, equally beautiful with those that are; but in these instances they perhaps much resemble them, or at least have no particular distinguishing traits. It may be asked, Why, then, are so many varieties enumerated in the catalogue, if so few comparatively can be recommended? To this I reply, that some Roses resemble each other in the form and colour of their flowers, yet differ much in the character of their leaves, branches, and general habit; some will also often bloom out of character, and imperfectly, one or two seasons consecutively, while others of the same colour and of the same family are blooming well; and then, perhaps, for a like period, the former will have their bright seasons of perfection, while the latter receive some blighting check, so that it is almost necessary to have plants of different natures bearing flowers alike. I may also mention that in moist, showery weather, the flowers of some of the extremely double Roses cannot open, but those of others, less double, but like them in colour, will open freely, and bloom in great perfection. These little facts are well known to the experienced cultivator.

Some new Roses inserted in the catalogue have only bloomed here one season, and perhaps not quite in perfection, so that an accurate description could not be given of them: many of these are most undoubtedly fine varieties. In classing the Roses in the following pages, and in the catalogue, I have retained those that are but slightly hybridised in that division to which they have the nearest affinity; for instance, if a Rose between the French and Provence Roses has more of the characters of the former than of the latter, it is retained with the French Roses, as it will group well with them, though not a pure French Rose: this helps to avoid those numerous subdivisions with which most of the French catalogues are burdened, as they only tend to confuse the young Amateur. In the descriptions, the colour of the flower is not always given, as the catalogue, of which this guide is only a companion, generally gives that correctly.

"In forming a collection of Roses from the French gardeners, great difficulty is often experienced by their incorrectness in the names of their plants: this inattention, to call it by no worse name, has long been the bane of commercial gardening. In this country, almost every nurseryman is now aware of the great responsibity he is under as to correct nomenclature. But in France they manage these matters differently, certainly not better; for if a Parisian cultivator raises a good Rose from seed, and gives it a popular name, a provincial florist will immediately give some one of his seedlings, perhaps a very inferior rose, the same, so that there are often two or three Roses bearing the same name: and if the original, or most superior variety, is ordered, ten to one if you get it, as the French florist generally gives you that which is most convenient for him to send, quite regardless of what you wish for: this is carried to an extreme, of which only those well and intimately acquainted with Roses can form a just idea."

China produces a great variety of vegetables for the table—turnips of an excellent quality. Potatoes grow very well, but the cultivation of them is not encouraged. The Chinese cultivate the sweet potate to a great extent. In acarcity of rice, it is the principal food of the poor, who reduce it to dry flower or dry it, so as to keep for several months.—China Opened.

Respectable and useful as every branch of the horticultural art certainly is, no one is more interesting to the public, or more likely to prove advantageous to those who may be so fortunate as to succeed in it, than that of inuring plants, natives of warmer climates, to bear without covering, the ungenial springs, the chilly summers, and the rigourous winters by which, especially for some years past, we have been perpetually visited.

Many attempts have been made in this line, and several valuable shrubs that used to be kept in our stoves are now to be seen in the open garden; there is, however, some reason to believe that every one of these was originally the native of a cold climate, though introduced to us through the medium of a warm one, as the Aucuba Japonica, the Peonea Montan, and several others have been in our times.

In the case of the annuals, however, it is probable that much has been done by our ancestors, and something by the present generation; but it must be remembered that all that is required in the case of an annual, is

to enable it to ripen its fruit in a comparatively cold summer, after which, we know that the hardest frost has no power to injure the seed, though exposed in the open air to its severest influence; but a perennial has to encounter with its buds and annual shoots, frosts that have sometimes been so severe with us as to rend asunder the trunks of our indigenous forest trees.

It is probable that wheat, our principal food at present, did not bring its seed to perfection in this climate till hardened to it by repeated sowings. A few years ago some spring wheat, from Guzerat, was sown with barley in a well cultivated field, it rose, eared, and blossomed with a healthy appearance, but many ears were, when ripe, wholly without corn, and few brought more

than three or four grains to perfection.

In the year 1791, some seeds of Zizania aquatica were procured from Canda, and sown in a pond in Spring Grove, near Hounslow, it grew and produced strong plants, which ripend their seeds, those seeds vegitated the sacceeding spring, but the plants they produced were weak, slender, not half so tall as those of the first generation, and grew in the shallowest water only, the seeds of these plants produced others the next year sensibly stronger than their parents of the second year. In this manner the plants proceeded springing up every year from the seeds of the preceeding one, every year becoming visibly stronger and larger, and rising from deeper parts of the pond, till the last year, 1804, when some of the plants were six feet in height, and the whole pond was in every part covered with them as thick as wheat grows on a well managed field. Here we have an experiment which proves that an annual plant, scarce able to endure the ungenial summer of England, has become, in fourteen generations, as strong and as vigorous as our indigenous plants are, and as perfect in all its parts as in its native climate.

Some of our most common flowering shrubs have been long introduced into the gardens. The bay tree has been cultivated more than two centuries, it is mentioned by Tusser, in the list of garden plants inserted in his book

called 500 Points af good Husbandry, printed in 1573.

The laurel was introduced by Master Cole, a merchant, living at Hampstead, some years before 1629, when Parkinson, published his Paradisus Terrestris, and at that time we had in our gardens oranges, myrtles of three sorts, lauristinus, Cypress, Phyllyrea, Alaturnus, Arbutus, a cactus brought from Bermudas, and the passion flower, which last had flowered here, and showed a remakable particularity by rising from the ground near a month sconer if a seedling plant than if it grew from roots brought from Virginia. Sir Joseph Banks, Bart, Horticultural Transactions.

The flower show previously advertised to be held in the Sheffield Gardens on the 12th and 13th Sept. will be attended by several London and provincial nurserymen, and we have received assurances of support from many of our neighbouring friends, who have it in their power to contribute greatly to the interest and splendour of the exhibition; nothing, therefore, but extreme unfavourable weather can prevent this being a meeting of great attraction.

We have received twelve sorts of Picotees from Mr. Hirst, gardener, at Caunton Manor, near Newark, in Nottinghamshire, and, not trusting to our own judgment, we have submitted them to an old and experienced grower, who has pronounced ten of them fair flowers, and the two which we shall figure in a future number of this Magazine, he thinks will rank high as show flowers.

From Mr. Willison, nurseryman, New Gardens, near Whitby, Yorkshire, we are also indebted for a basket of interesting plants, amongst which is a double variety of Spanish broom, raised from seed: also a seedling Piccotee, which, however, we do not regard as very remarkable, further than its having an exceedingly rich rose-coloured margin to the petals, the ground being white. A double-flowered variety of Lotus corniculatus, a native plant, common in meadows, is carious and well worth cultivating. Some twigs of a species of Prants, with the edges of the leaves surrounded by a silver stripe. A branch



of Pavia, with variegated leaves. Three Anemone flowered seedling Dahlias, two of a rose-colour differing slightly in their shades, and a very lich yeller; we suppose neither of these could be classed as show flowers, but are, nevertheless, well worth growing where decoration and ornament is the end sought to be attained, which, after all ought to be the legitimate object in floriculture. Mr. W. has also sent us a plant of a seedling fuchsia, named Willisoniana, which he thinks an improvement on many other seedlings in cultivation. In habit it is slender; the flowers appear to be numerous, short, on long slender foot-stalks, and of a light rose colour. The plant sent is small, but from its appearance we have no doubt it merits attention, and will be found a desirable variety. We have also received several specimens of hybrid varieties of Papaver bractiata, an exceedingly showy plant, but from the flowers sent we are unable to state anything of their properties, and in what they differ from the original. With the above are included several specimens of Noisette Roses, which appear to thrive and attain high perfection in the New Garden Nursery. But the most remarkable of all, and what we should regard as a most valuable acquisition to the florist, and indeed to all lovers of showy flowers whatever is a variety of candy-tuft, which we shall have to notice hereaster.

Mr. Kempton, gardener to Lord Scarbro', at Sandbeck Park, Nottinghamshire, kindly sent us five flowers of hybrid Epiphyllums, or the broad-leaved Cactus; one of the flowers, a deep red, with broad-spreading petals, measured eight inches across, and is said to be a very free flowerer; another, being of a buff colour, but rather smaller than the preceding, is, we think, an interesting variety, differing from any we know in its colour, approaching to yellow, and were it again crossed with Cactus grandiflora or triangularis a yellow coloured variety might be obtained. The others, although beautiful and brilliant in colour, do not present any character sufficiently distinct to attract attention. This might be otherwise were it not the case that thousands of varieties are probably raised annually. Besides the kinds just noticed Mr. Kemptou has many other seedlings in a forward state for flowering.

The Chinese fruits have received undue praise. With the exception of the orange, of which there exists the greatest variety in the southern provinces, we scarcely think there is anything to be compared with our European. The pears and apples are greatly inferiour to ours. There is very little variety, nor do the Chinese give themselves much trouble to improve the kinds by grafting. In some districts one can walk for miles without seeing a single fruit tree, and an orchard is quite out of the question. The fruits of southern Italy all grow in the southern provinces, but they do not grow to such perfection as we see them there. Peculiar to China is the Li-che. which, dried as well as fresh, has a very agreeable taste, but there is little flesh on it, the stone being very large. The tree has been naturalized in Bengal, and its fruit is superior to that of China. Peculiar to it is the hung yen, Dragon's eye. Its pulp is rather more luscious than that of the Li-che, the rind is red, and the shape is round. It grows to the greatest perfection in To kein, and is highly esteemed by the Chinese, being, in taste very like to our plums. Superior to both these, is the Tse tee, a fruit of a yellowish tinge, which, when ripe, grows red, of the shape of a small plum, having a sweet taste, and is exceedingly agreeable to the palate; it is the most luscious fruit of which China can boast, and, when dried, resembles a large fig. Mulberry trees grow here to the highest perfection, and in the greatest variety. In the Northern provinces, and Leaou-tung, the vine thrives; the grapes are excellent, but the Chinese never attempt to make wine; as raisins, they form an article of exportation. Strange to say, the cold regions of Hami produce grapes, which make the best raisins known in China. - China Opened.

We beg to inform a Constant Subscriber that from our acquaintance with Buxus Balaricus, we should pronounce it of slow growth, rather tender, requiring the protection of a wall, and seldom attaining more than eight or ten feet in height,

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXIX.—OCTOBER, 1838.

ORIGINAL COMMUNICATIONS.

ON FUCHSIA FULGENS.

BY MR. M'EVOY.

With surprise I read in the August number of the Floricultural Magazine, a communication on the culture, &c. of Fuchsia fulgens "by an Amateur." With attention I perused your correspondent's remarks, and could not help thinking how far such communications, although well meant, go to prevent the wide circulation, which such a truly good plant deserves, at least with all who like your correspondent " are not well supplied with the means of cultivating and attending to plants of tedious and difficult culture;" for such is the character given of this gem, although I really believe that of all the beautiful plants that have been lately introduced, whether we take into account the rapidity of its growth, its easiness of propagation, or the durability and surpassing beauty of its blossoms, it certainly claims the especial attention of the amateur, or those whose leisure or a circumscribed space permits of cultivating but few plants. But, Sir, it is not for the purpose of stricture that I write, but to rescue from the oblivion to which this lovely plant would be so prematurely consigned, that I beg a corner of your widely circulated periodical. Hoping your correspondent will take my remarks in the friendly spirit in which they are given, I will detail the success that has attended us in its cultivation.

Early this summer we had a small but healthy plant from a respectable London Nursery. We examined and found it wanted

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re-potting, the compost used was equal parts of light loam, and fully decomposed cow's dung, and one fourth each of leaf mould and pure sand, crocking the pot well and putting some of the roughest in the bottom. We placed the plant on a shelf within a few inches of the glass, in a late vinery to which no artificial heat was applied, merely shutting up early in the afternoon, so as to retain from 50 to 55 degrees of heat in the morning. In the day the heat ranged from 65 to 75 degrees. Allowing a free circulation of air after the grapes were set, supplying the plant freely morning and evening with water, and shifting as the roots made the sides of the pot. As soon as the plant shewed flower we removed it to our heathery placing it in the airiest part of the house close to the glass, where it is now flowering in the most splendid manner. The plant is two feet ten inches high, densely clothed with dark green foliage, some of which measure seven inches long and five inches in diamater, with-several side shoots, on some of which flowers are appearing, the flowers are full three inches long. Little more than a fortnight ago, we planted a cutting in a small pot filled with sandy soil, covered it with a bell glass and plunged it in a hot bed, and it is now beautifully rooted.

I have not the least doubt but Fuchsia fulgens will flower well in the open air during the summer season; indeed Mr. Osborn, jun. of the Fulham nursery, has told me that in their extensive nursery, sevaral plants of Fulchsia fulgens are planted out of doors and growing most luxuriently, forming dense bushes, and covered with bloom; they also possess a large stock of fine healthy plants.

JOHN M'EVOY.

[For the sake of this very splendid plant, we are obliged for the above remarks. The Fuchsia fulgens may not be deserving of all that has been said in commendation of it; there are, however, but few plants of recent introduction of equal beauty, and we regard it as a most desirable and ornamental plant.—Ed.]

NOTES BY THE EDITOR.

The Gardener's Magazine for September, contains a descriptive notice of Bedford Lodge, at Camben Hill, the suburban residence of His Grace the Duke of Bedford.

This notice is drawn up by his Grace's Gardener, Mr. John Caie. As illustrations, there are five beautiful wood engravings,

exhibiting different views of the mansion, garden, grounds, &c. &c. Camden Hill is chiefly remarked for the extent and superior management of the flower garden. It would appear the object there, is, as far as possible, to produce a brilliant display during the months of May, June, and July, and we believe it has been accomplished in a most admirable manner. The beds and borders exhibit throughout these months, the most gorgeous display of floral beauty which it is possible to conceive. We may give the following as an example of the management of one of the borders, which contains the following plants: "The first effect is produced from the following Californian annuals :- Nemophila insignis, blue; Platystemon, californicus, cream colour; Collinsia grandiflora, purple; Callomia cowenia, scarlet; Eschscholtzia crocea, deep yellow; Gilea tricolor, lilac, white, and black; and G. achillæfolia, purple. These are annuals, and were sown about January, in the compartments, where they come into flower about the beginning of May, and continue flowering till the end of June or beginning of July, when the greater part of them should be cleared away, in order that they may not draw up and weaken the plants which are to succeed them, and produce the second effect. The flowers for this second exhibition are all perennials, and consist of Enothera macrocorpa, yellow for the first compartment. which remains then as a permanent plant, the seeds of the Nemophila having been sown amongst it in January, as above. The next compartments contain Verbena tweediana, crimson; V. Lambertiana, purple; Calceolaria, angustifolia. yellow; Petunia violacea, purple-scarlet; Geraniums, and Verbena Drummondi. These are all half-hardy perennials, which are kept in pots during the winter, and planted out as soon as there is no danger to be apprehended from frost."

From this extract it will be readily understood with what precision and system the whole of the beds and borders are treated. Some idea of the extent and splendour of the place thus managed may be formed from the fact that there are no less than one hundred separate compartments, all occupied with plants selected and cultivated with the most admirable skill.

Mr. Caie gives a brief account of his mode of providing and preserving what are termed half hardy greenhouse plants, which

form, of course, the principal display in the garden under his care. The cuttings of most kinds are put in during September, and are allowed to remain in the cutting pots till the following spring, when they are potted off and placed in a gentle heat, where they are made to grow rapidly until they have attained some size; they are then removed to a cool frame, where they are gradually hardened, till they are fit to plant in the open ground. Mr. Caie places his pots and pans containing his cuttings in a pit, provided with pigeon holes, to which linings of fermenting dung are applied during severe frost. Of course when a large extent of ground, such as that at Camden Hill, has to be filled annually with such plants, it is quite indispensible that ample and proper arrangements be made for the production of such plants. In ordinary cases, however, and perhaps in by far the greater number of instances where these plants are required, accommodation may be found for them during the winter season, either in the vinery, the shelves of a greenhouse, or a garden frame, well protected with straw linings, and covered with matting and straw at night.

The second (article in this Magazine is an exceedingly interesting one, written in an amusing and instructive style. The subject is the analogy between plants and animals, by J. A. W. It is said plants differ from animals in being destitute of locomotion, in being capable of reproduction by division of their parts; in being, also, without a brain and a nervous system; and likewise in light being as essential to their existence as air is to those of animals. In animals, the process of digestion is performed in the stomach, while in plants it is carried on in the earth surrounding their roots. The following singular fact is mentioned here:-" In all vertibrate animals, there is a part at the back of the neck between the spinal marrow and the brain, where a serious injury will occasion immediate death. There is a corresponding point in plants, between the root and the stem, which is called the neck or collar, and at this point plants may be more readily injured than any where else." It is also stated that, by covering this point too deeply with soil, most plants are readily killed. This point is immediately beneath the seed leaves, and a plant cut through below these, is, in the generality of cases, doomed to inevitable

death. Those, however, which have attained age and magnitude, are often furnished with latent buds, which, on the tree or plant being cut off at the ground, are speedily developed, producing leaves and branches by which the individual is renewed. This is never the case with any plant while in its infant state, it being then dependent on its seeds and leaves for nourishment.

The striking analogy between the lower orders of the animal and vegetable creation, does not appear to have occurred to J. A. W. when speaking of such plants as the horse radish, so remarkable for its tenacity of life, any part of which, in most instances, is capable of germinating even when placed two feet under the surface of the soil. To this and similar plants of imperfect organization, there is a striking resemblance, most conspicuous in the whole of the lower orders both of the animal and vegetable creation. The lower the scale of organization in the animal, as well as in the vegetable, the more tenacious they are of life. an illustration of this principle, reference might be made to the common earth worm, the lizard, &c., the trunks of which may be parted without destroying life, and days will sometimes elapse before the parts have ceased to exist. Others might be mentioned still more remarkable, such as the Polypes, and the lower tribes of worms, which send forth their feelers in the water like so many roots seeking their food in the earth. Some of these may be turned inside out, like a glow, without sustaining any injury or derangement of their ordinary functions. As there is yet scarcely any satisfactory line drawn by which the animal and vegetable creation can be clearly distinguished, it has been recommended to test them by burning, supposing that the smell of vegetable and animal matter would be detected by this process. Since, therefore, the two are thus intimately blended, and the analogy between them is so remarkable, we cannot quite subscribe to the opinion advanced by J. A. W., when he says-" plants having no feeling in the common sense in which the word is used, can neither experience pleasure nor pain." We think it a question far from settled that, since plants possess life, irritability, and motion. spontaneously directing their organs to what is natural and beneficial, and flourishing according to their success in satisfying their wants. May not the exercise of their vital functions be attended with some degree of sensation, however low, and some degree of

happiness? Such a supposition is, at least, in accordance with the best ideas we can form of the Divine Creator; nor could the consequent uneasiness and psin which plants must suffer, no doubt in a very low degree, resulting from the depredations of animals, bear any comparison with their enjoyment on the whole. Be this as it may, the want of sensation is most certainly not to be proved with regard to vegetables, and cannot, therefore, be of any value as a practical means of distinguishing them from animals.

The Correspondent in question is equally at fault, at least according to our views, when he says-" Another remarkable difference, also before alluded to, between plants and animals, is the absolute necessity of light to plants during the whole period of their existence." It is true that, so far as foliaceous plants are concerned, light is altogether indispensable, and there is of course no difficulty, nor any risk of confounding the two kingdoms so long as the lower orders of each are unapproached. It is here where the boundary is lost, and here it is where J. A. W. is again unsupported by facts; for, if we are to regard the extensive tribe of fungi included in the general term usually applied to plants, we shall find many exceptions to the principle which he has set up. As familiar instances of those plants to which we refer, the truffel and mushroom may be mentioned. To most persons the latter is well known, not less for its many valuable properties as a culiuary vegetable, than for the fact of its being very frequently grown to the highest state of perfection in cellars of dwelling houses, boxes, closely covered in stables, and similar places; and in the most complete apartments, constructed especially for its culture, light is invariably excluded.

This is a question of vast dimensions, worthy of unwearied investigation; and did those who undertake to explore its intricate and mysterious economy, determine to receive the results as they presented themselves, rather than predetermine what these results should be, their laborious researches would be of a more valuable kind than those generally given. For our own part, we cannot understand why the two grand divisions of the animal and vegetable kingdoms should stand distinct and apart from each other. It will be found that in selecting two of the most complete and highly organised individuals of these two kingdoms—suppose man to be highest in the scale of the animal creation, and the lofty tree of the forest as

a representative of the highest order of the vegetable world—we shall find the several orders of the animal race blending with each other, from man downwards, and in like manner one order of vegetables with that immediately below it, till the animal and vegetable kingdoms become one. Now when we consider the narrow bounds within which the most exalted human mind is confined, when viewed in connection with the wonderful economy of the animal and vegetable kingdoms, there is no impropriety or opposition to ascertained facts, in coming to the conclusion that in the grand scheme of creation there exists no separate or distinct parts, but it ought rather to be regarded as a grand whole.

We have, perhaps, in these remarks, wandered somewhat from the subject in question, and shall, therefore, speedily close our observations on this interesting paper, though we ought in strict propriety to say we think it is written rather to amuse than to convey accurate ideas on the question of which it treats. Before leaving the subject, we shall notice the following remarks. It is stated that " Plants agree with animals in their offspring, when they are raised from seed, bearing a general resemblance to the parent, but, as in every family, the children of the same parents differ individually in features, temper, disposition, &c., and among seedling plants from the same seed-pod, no two plants will be found exactly afike." This broad and general statement requires some qualification. Many of our domestic fruits and culinary vegetables have been brought to their present state by frequent crossing, and hybridizing; being, therefore, so far removed from their primitive state, their seminal offspring is ever varying This tendency is, however, even among culinary vegetables, confined for the most part to the Cruciferious, or cabbage tribe. Peas, Beans, with many kinds of pulse and grasses, continue to reproduce their kind with constancy, and without the slightest variation. Indeed, some of these have perpetuated their kind for the last half century or more, without undergoing any change whatever.

These palpable facts are, we fear, irreconciliable with the statement of J. A. W.

An Article on the Construction of Forcing Houses, Pits, &c. &c. By J. Mitchinson, Gardener, Pendarves, in Cornwall.—In describing the purposes for which one of these houses have been



erected, Mr. M. says it is intended to cultivate grapes in pots; and when these are matured, they are succeeded by another crop from the vines in the borders, which are taken into the house as soon as the fruit on the potted plants have been cut. By this mode of management, it will be seen that the house is made to produce two crops in one year. This is, perhaps, the strongest argument that can be adduced in favour of cultivating vines in pots, and when well managed, it is quite clear the system is capable of being turned to excellent account.

The plans and sections appear very judiciously arranged, but, the most remarkable feature is the heating of several distinct and detached apartments with one boiler.

In theory there is an appearance of economy in the arrangement of heating several houses by the same boiler; and this has a never failing charm. In practice, however, such arrangements are far less effective than might at first appear; indeed, they very seldom work well, and often prove entire failures.

Mr. Wighton, gardener to Lord Stafford, at Cossey Hall, near Norwich, maintains that Mr. Nutt's Bee-hive does not prevent swarming. He says the ventilation of the side boxes is impracticable, because the bees will immediately seal up any aperture or opening whatever, which they do not require; he also asserts, that could this be effected at pleasure, it would only cause more bees to remain in the hive to keep up the warmth, and thereby prevent their being at work: and adds, that Mr. Nutt has failed in what he proposed by this kind of hive, as it does not prevent swarming, nor deter the Queen from laying eggs in the side boxes.

In a communication from Mr. J. Drummond, superintendent of Government Botanical Garden, Swan River, accompanied with a collection of specimens, of which Mr. Loudon has given engravings, Mr. D. in speaking and describing one of the species, says, "it is one of the most curious of sensitive plants." The lower lip in which the anthers are placed is boat-shaped, and the upper lip, supposed to be the stigma, forms a lid, which exactly fits the lower one. "The hinge on which the lid moves springs from the upper part of the flower, and is attached to its centre; and when it opens, the upper part turns round within, the box comes out at the bottom, turns up and back, so that when fully expanded it stands

fairly over the flower. The moment a small insect touches the point of the lid it makes a sudden revolution, brings in the point of the lid at the bottom of the box, so that it has to pass the anthers in its way, and makes prisoner any small insect the box will hold." As soon as the insect dies, or becomes motionless, the lid opens. The plant is said to be rare, and even in those situations where it is found to grow, its appearance so much resembles charcoal, amongst which it prefers to grow, that its detection is rendered exceedingly difficult.

• Mr. John Tyffe, gardener, at Milton Rectory, in Bedfordshire, recommends persons who purchase new an expensive dahlias, to propagate from the side shoots as soon as the smallest portions fitted for this purpose can be obtained, so that by encouraging these the kind is secured. He says the tuber of the purchased plants sometimes fails to spring the second season, so that by adopting this method there is an advantage in having two chances instead of one.

Mr. Elliott, gardener, Ripley Castle, inarched a branch of a female plant of Carica papaya upon the stem of a male plant of the same species. This union existed for some time, but was accidentally broken off, since which time the male plant has produced female flowers, and these being fertilized have borne fruit. Mr. E. supposes the production of female flowers to be the result of the union in question, occasioned by the organized sap of the female plant operating throughout the system of the opposite sex.

For the information of our non-botanical readers, we ought to mention that Carica belongs to the class Diœcia, of Linnæus, composed of plants having their male and female organs on separate plants. The fruit of the Carica papaya is eatable, and in appearance somewhat resembles a small variety of melon.

In Paxton's Magazine of Botany, for September, an excellent article is given on the advantages of classing plants in greenhouses, a subject of much more importance than that usually attached to it. For the cultivation of Camellias, it is recommended that the house should have a south-western or western aspect, and when this caunot be procured, the plants ought to be shaded during bright vol. III.

sunshine. Along with Camellias, it is proposed to cultivate Rhododendrons, and such plants as from their naturally thick and fleshy leaves, are susceptible of injury from the influence of bright sunshine. The culture of Pelargoniums, is said to require a house devoted entirely to themselves, and plants of similar habits, among which might be enumerated Petunias, Mysembryanthemums, Calceolarias, &c. These require all the light that can be given to them, and to be kept as near to the glass as circumstances will allow. The next genera enumerated, are Banksia, Acacia, Protæa, Fuchsia, &c., and these are denominated miscellaneous, and may be cultivated promiscuously in the same house.

Added to this paper, are some very interesting remarks on the influence of solar light on vegetation. Mr. Paxton deprecates in strong terms the absurdity of expecting either healthy plants or brilliant coloured flowers from plants when crowded together, until they have become what is termed drawn with scarcely any branches or foliage, except a few twigs and sickly leaves near the top. Light is the principal agent in the production and maturing of seeds, the ripening and flavouring of eatable fruits; in fact, vegetable life cannot be sustained without it, and is always feeble and weak in its absence.

In the same Magazine, Mr. P. in speaking of the soils used by Nurserymen in potting plants, observes that it is a common practice with cultivators, on receiving plants from a Nursery, to repot them into the same, or as near the same kind of soil as they can, believing that the compost in which they are cultivated in Nurseries, is that best suited to their growth; this is justly censured as a most erroneous opinion, and in practice often attended with fatal consequences to the plants themselves: first, because in extensive Nurseries, it is seldom attempted, and would, indeed, be impracticable, to vary the soil to suit individual plants; and in the second place, it is not the object of Nurserymen to increase the size of their ordinary stock, but only to preserve them alive, and of a size suited to transportation to a distance.

It is, therefore, most essential that persons on receiving plants from a nursery collection, should exercise their own judgment with regard to the particular kind of soil which each may require, and except in cases when the plants are very small, they will invariably require shifting into larger pots.

In the notices of new and rare plants, we are informed that at Messrs. Henderson's Nursery, Pine Apple Place, that pretty annual Eutoca Wrangeliana, had flowered in great abundance, and is recommended as an excellent and showy plant, for growing in masses in flower gardens. Potentilla, Tongui, and Sedum Sieboldii, are also noticed. The former is a trailing plant, with buff or orange-coloured flowers, and the latter with pink blossoms, a native of Japan; are both said to be hardy, and well adapted for planting on rock work.

Knight's Nursery, Chelsea.—Gesneria rupestris, is noticed here as being in flower, and one of the handsomest of this showy and highly ornamental genus. In the same establishment, Aristolochia hyperborea is in flower, but no information is given whether it be a stove, greenhouse, or hardy plant.

Messrs. Loddiges, Hackney.—Cyrtochilum Bigtonense, an orchidaceous plant of great beauty, with lilac and brown-coloured flowers. The flower stems are about six feet in height. A new species of Cyenoches, nearly allied to C. ventricosum, but having larger flowers, and of a yellowish and orange colour. Also in flower, Angræcum gladiifolium, with white blossoms. Two of Siebold's Liliums Speciosum, and L. lancifolium roseum, are also in bloom. These are splendid plants.

Messrs. Low, Clapton.—Lilium Album, with pure white reflexed flowers; and L. lancifolium, variety roseum, have also flowered here. Verbena Tweediana Splendens, and V. grandiflora; the former is said to have flowers of a richer and more splendid colour than V. chamædrifolia.

Messrs. Rollisson's, Tooting.—Here a species of Stanhopia has been flowered, surpassing in splender (Cattley's excepted) all other orchidaceous plants yet known. The flowers are produced in pairs, and somewhat resemble S. grandiflora; the ground colour is buff, with deep red and purple, and the flower measures eight inches across. A new plant, under the name of Amphicome arguta, is also in flower, supposed to be nearly hardy, and having trumpet rose-coloured flowers.

Mr. Young, Epsom.—Lilium aurantiacum, is here in flower; the petals are slightly recurved, and of a dark orange colour.

The interesting and much talked of Lisianthus Russelianus, is also noticed in flower. "This beautiful herbaceous plant is

flowering at the above nursery, and its large blue blossoms form a striking contrast to its slender and graceful habits." From this statement we are unable to form an accurate estimate of the character of this plant; we have seen it in various situations, and at different periods of the year, but such has been its slender weakly habit in every instance when we have had an opportunity of witnessing it, that we are led to form no high opinion of its beauty. A plant now in our possession, belonging to Messrs. Fisher, Holmes, and Co., of Handsworth Nursery, near Sheffield, has produced flowers, but so sparingly, that were it not that it is less robust than that which, under favourable circumstances, it might fairly be expected to arrive at, we should not regard it as a thing of much value. The flowers are purple. An annual with bright orange-coloured flowers, named Shenogyne Speciosa, is highly spoken of as being a free flowering plant, and well adapted for the flower garden.

(To be continued.)

EDITOR.

REMARKS ON THE ADVANTAGES OF BUDDING THE YELLOW ROSE.

BY AN AMATEUR ROSE GROWER.

The following few remarks on the yellow rose, (Yellow China?) when budded on the musk cluster rose, are probably calculated to please, and I hope to instruct, at least, some of your readers. Those who grow roses are, of course, aware that the yellow rose is not only susceptible of injury by frost, but when protected from the effects of the latter, it often fails to attain a large size, or luxuriance of habit; when grown upon its own bottom. I find this difficulty completely overcome by budding it upon the musk cluster rose. In this way it succeeds to admiration. I have it at this moment (July 25th) growing and blooming in great vigour. Some of the stocks are dwarf, others are tall, varying from one to five feet in height. They are all at the foot of a wall, having a south and south-east aspect, and are trained to the wall, allowing the front shoots to project twelve or fifteen inches. As a gem in roses I know of nothing that can surpass this beautiful shrub, when treated in this way. I cover the plants with dry spray and mat-

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ting during winter, and remove it again early the following spring I have not found it necessary to prune this rose, except in a very slight degree, and, as already stated, the branches are allowed to grow to the front, and on these straggling shoots the blooms are produced in great profusion.

Supposing it not to be generally known, or rather not generally practised, I have sent you the above notice of my mode of cultivation with respect to this rose, and shall be glad if you think it deserving of publication, as I am sure the plan will repay whoever may take the trouble to give it a trial.

In the budding of one variety of rose into that of another, there is, of course, nothing new; and all that tends to make the above interesting is, that the yellow rose, supposed to be the yellow China, being an exceedingly beautiful variety, is made to grow more freely, and bear its blooms in greater profusion, in being grafted or budded on a peculiar kind, which experience appears to have proved this kind to be suited, in a remarkable degree, as a stock for the rose in question. Much may be done in this way to bring out the beauties and graceful habits, colours, &c. &c. of many of the kinds.

[It is not in all cases that the yellow China rose fails when grown on its own bottom, or when not budded on some other kind. On a south wall, with a south aspect, at Chatsworth, in Derbyshire, we saw, during the present spring, a plant of this rose upwards of thirty feet in height, and covering the wall eight or ten feet in breadth.]—ED.

REFERENCE TO PLATE XXXII.

DIANTHUS CARYOPHYLLUS, VAR. FLORA PLENO, Ely's Lovely Ann Carnation.

NAT. ORD. CARYOPHYLLE ... CLASS DECANDRIA DIGYNIA.

For the privilege of figuring this very beautiful variety of Carnation we are indebted to Dr. Horner, of Hull, from whose letter we quote the following remarks:—"I have taken the liberty of sending you a Rose (or Pink) Plake Carnation, which I should be much obliged if you would have figured in your excellent and sensible Magazine. I may state that I am an old amateur in florist flowers, and have grown or seen perhaps all the best flowers in cultivation. The one I now send you is decidedly and by far the best in its class at present known, and I am sure you would do the floral world a great kindness by giving it the publicity of your Journal. It has not been figured, and will not be in any other publication. The great excellence of the flower is in the deep rich rose colour of the stripes; in this

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it is unequalled, or unapproached to. Again, its broad bold fleshy petal, and also the pure unspotted white. The size of the flower is also remarkable, and its general shape is very fine."—We fully coincide with Dr. Horner's opinion of this flower.—History: This flower was raised by Mr. Ely, of Rothwell Haigh, near Leeds, and is called Ely's Lovely Ann. It was sent out two years ago at 10s. 6d. per pair, and still maintains the same price, having gained the first premium at all the principal flower shows where it has been exhibited. It is allowed by all judges of the Carnation, on account of its remarkably deep rose colour, broad fleshy petal, and regularity of its stripe, to be by far the best flower of its class. Mr. Ely, an honourable and ardent florist, has also had the good fortune to raise some other first rate Carnations and Picotees, which have lately been sent out.

We quote the following very plain and simple directions for the increase and propagation of these beautiful plants, from the Transactions of the Horticultural Society, London, communicated by Edward Barnard, Esq.:—

On the Treatment of Foreign Pisotees.—The seeds should be sown in the middle or latter end of May. When the plants are rather more than two inches high, they should be planted out in rows at the distance of nine inches; they must be sheltered from excess of rain and severe frosts during the winter, and they will blow in the course of the following summer. Plants thus raised from foreign seed, generally grow luxuriantly until after they have bloomed; but the layers of the choice sorts, when propagated, are much more tender and difficult to preserve than the common English varieties, as they suffer in a much greater degree from the effect of damp during the winter. All the layers of some varieties die in the course of the succeeding spring, while the others are only kept alive by great attention, without the possibility of increasing them to any extent. Whenever the strength of any of the plants will admit of it, it is desirable to take off some shoots for pipings, as they frequently endure the winter better than plants raised by laying, although they will not produce so great an increase in the following season. It is recommended not to keep the layers in pots during the winter, as they appear to succeed better by being planted in a frame under a south wall, in a border composed of one half rich garden mould, two-sixths light loam, and one-sixth coarse grit. Towards the beginning of April they may be planted in a bed for blooming them, made up with onehalf of maiden loam, two-sixths of very rotten dung, and one sixth of coarse grit. The bed should be hooped, in order that mats may be thrown over for the protection of the Plants during the cold nights of April and May, or even later, as the season may render necessary. In all other respects, the general rules for the treatment of Carnations may be considered as applicable to these plants. They certainly require constant and particular attention, but the florist who succeeds in cultivating them, will be amply repaid for all the trouble he bestows upon them, although he must be prepared to meet with more than common disappointments and difficulties.

The following will also show the interest which was taken in the culture of this flower at a period so remote as that of Gerrard, in 1633:—"There are at this day, under the name of Caryophylius, comprehended divers and sundry sorts of plants of such variable colours, and also spiral shapes, that a great and large volume would not suffice to write of every one at large in particular; considering how infinite they are, and how every year every climate and country bringeth forth new sorts, such as have not been heretofore written of, some whereof are called Carnations, others Clove Gillowflowers some Saps in Wine, some Pageants or Pagian colour, Horseflesh blunket purple, white double and single Gillowflowers, as also a Gillowflower with yellow flowers. The which a worshipful merchant of London, Master Nicholas Lete, procured from Poland, and gave me thereof for my garden, which before that time was never seen nor heard of in these countries."

The Picotees, Nos. 2 and 3, were sent by Mr. Evan Hirst, gardener, Caunton Manor, near Newark, Nottinghamshire, who along with those sent several very excellent blooms, which we submitted to the inspection of an experienced florist, who pronounced them to be superior flowers.

NOTICES OF NEW PLANTS.

ESCULUS OHIOTENSIS, the Ohio Bucks-eye Chesnut.

[Bot. Reg.

MAT. ORD. ÆSCULACEÆ. CLASS PENTANDRIA MONOGYNIA.

This is a dwarf tree, growing to the height of from twenty-five to thirty five feet, the foliage is very large, on account of which it is recommended to be planted in very sheltered situations, in order that the large leaves may be protected from the wind, which are often greatly injured when planted in exposed places. The flower spikes are ample, and of a white colour, tinged with rose. It is a native of the United States, especially on the banks of the Ohio, where it is very abundant. It is readily increased by grafting in spring, or budding in summer.

POTENTILLA GLABRA, Glabrous Potentilla.

[Bot. Mag.

NAT. ORD. ROSACEE. CLASS JCOSANDRIA POLOGYNIA.

Any thing whatever, as a hardy shrub, cannot fail to be interesting to all lovers of plants. The additions to this class of ornamental plants are few, compared with the multitude of those requiring the protection of the stove and greenhouse. And that now under consideration, is not only valuable on account of being hardy, but also in being highly ornamental. It is a native of Siberia, and was received by Messrs. Loddige, of Hackney, during 1822, from Mr. Bush, of St. Petersburgh. Its habit is that of a small round bush, resembling some of the Cistus. The flowers are white, and are produced during August and September.

ARTHROSTEMMA VERSICOLOR, Changeable Flowered Arthrostemma, [Bot. Mag.

NAT. ORD. MELASTOMACEE. CLASS OCTANDRIA MONOGYNIA.

A showy little plant, requiring the warmth of the stove. It is a native of Brazil, where it was found at St. Catherine, by Mr. W. Rae, and since on the same line of coast by Mr. Tweedie.

LOBELIA FENESTRALIS, Loop-holed Lobelia.

Bot. Reg.

NAT. ORD. LOBILIACE A. CLASS SYNGENESIA MONOGYNIA.

This addition to the ornamental genus Lobelia, is far superior in point of beauty to many others. Its coarse ragged foliage and small dingy brown flowers, are characters calculated to prevent this plant ever becoming one of much interest to the florist. As a species, it is, botanically interesting, and deserves to be cultivated as such. It is half-hardy, supposed to be biennial, and attaining the height of about three feet. Its season of blooming is from July to September. Its native country is Mexico, and was found by Humboldt and Bonpland, at an elevation of six thousand six bundred feet. It has been raised and flowered in the Gardens of the Horticultural Society, London.

CYCLAMEN NEAPOLITANUM, Neapolitan Cyclamen.

Bot. Reg.

NAT. ORD. PREMULACEÆ. CLASS PENTANDRIA MONOGYNIA.

This is the Cylamen well known to cultivators under the name of C. Europeum. The name of Neapolitanum has been given to it by Professor Tenore, It is naturalised in Kent, but it is supposed to have been brought from the Mediterranean shores.

ONCIDIUM RANIFERUM, Frog Oncidium.

[Bot. Reg.

ORCHIDACE E. CLASS GYNANDRIA MONANDRIA.

This small epiphyte is thought to grow on the branches of trees. The raceme being of a pendulous habit. The colour is a dingy yellow. It is a native of Brazil, and first flowered at Mr. Knight's, of the King's Road, Chelsea. "The name is derived from the curious form of the tuberclea, which grow at the base of the lip; when looked at from above, it resembles the figure of a Frog couchant, the double lower tubercle representing the creature's haunches, and the anterior emarginate one its head.

SOPHRONITIS CERNUA, Drooping-flowered Sophronitis.

Bot. Mag.

NAT. ORD. ORCHIDER. CLASS GYNANDRIA MONANDRIA

This is a pretty little plant, a drawing of which is given, clasped to a branching piece of old wood. The foliage is ovate, and the small red flowers resemble those of the epiphyte ornithedium coccinium. It is from Brazil, and has also been found by Mr. Gardener, on the Organ Mountains, and is identical with the plant sent home by that collector, numbered 665 of the second collection.

ASPASIA VARIEGATA, variegated Aspasia.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA:

This plant might readily be mistaken for Zygopetalum, both in the habit and colour of the flowers, which are of a light colour, streaked with white and brown, and are produced in solitary stalks near the base of the leaves. It is a native of Trinidad, and introduced to the Glasgow Botanical Garden in 1835. The flowers are highly fragrant.

GLADIOLUS MORTONIUS, Mr. Morton's Gladiolus.

Bot. Mag.

NAT. ORD. IRIDER. CLASS TRIANDRIA MONOGYNIA.

The genus Gladiolus is one of acknowledged beauty. There are, however, various degrees of excellence in this respect, and the one new under consideration probably falls short even of mediocrity when viewed in connexion with its congeners. The flowers are of a dingy rose colour, and the plant is a native of Southern Africa. It has bloomed in the collection of the Hon. and Rev. William Herbert, of Spafforth, who says it belongs to the European and Natal-river species, and has some affinity to G. oppositifiorus.

ISMENE MACLEANA, Mr. Mc. Lean's Amuncaes.

Bot. Mag.

NAT. ORD. AMARYLLIDEE. CLASS HEXANDRIA MONOGYNIA

This Amancaes resembles in habit and structure the one figured in the last number of this Magazine, differing in appearance only from that species in having white flowers. The Glasgow garden is indebted for the possession of this plant to the gentleman whose specific name it bears, having been found by him in the neighbourhood of Lima. Its nearest affinity is with Ismene pedunculata. It requires the temperature of the stove, when it flowers freely, and makes a handsome appearance.

THYSANOTUS TENUIS, Slender Thysanotus.

Bot. Reg.

NAT. ORD. LILACEM. CLASS HEXANDRIA MONOGYNIA.

The pretty little plant in question is a native of Swan River, introduced from thence by Robert Mangles, Esq., of Sunning Hill, in whose collection it produced its nest little flowers in 1837. We have no doubt the alender rush like foliage of this plant, when of considerable size and in vigorous health, is an ornamental and desirable plant. Its star like flowers are purple, and conspicuously ciliated. It succeeds in the temperature of an ordinary greenhouse, and might be grown in a cold frame.

TULIPA GESNERIANA, Gesner's Tulip.

Bot. Mag.

NAT, ORD LILACE ... CLASS HEXANDRIA MONOGYNIA.

"This species is found without any dispositions, in field to vary at three places near Florence; Le Rose, a farm on the road to Siena Galluzo, four miles from Florence; and in the Val d'Emo, not far from the city on the south side.

Raddi considered it as certainly the tulip of Gesner, whether that were the parent of the garden sorts or not. Fischer thinks the T. Gesneria of Pallas, found in the steppes of Russia, a distinct species, and not the parent of the garden sorts."

For the foregoing note we are indebted to the Hon. W. F. Strangways. No synonyms beyond those of Linnæus are quoted, because they are both innocent and uninstructed. The plant figured under this name in the present work, folio 980, from bulbs sent from Constantinople, is T. Oculis solis, and I doubt whether the Cappadocian plant referred to by Gesner, as the origin of our garden tulips, was anything else, if it really came from Cappadocea. "The form of the flower of the species now represented, its smoothness and its robustness, appear sufficient evidence of its identity with the self tulips, from which the gay varieties of the tulip fancier are bred."

PLANTS NOTICED BUT NOT FIGURED IN Bot. Reg. CALYSTEGIA SEPIUM.

This, although a native of New Holland, is identified with the European Bind weed, and we presume it is only noticed by Dr. Lindley on account of its having been found in Australia.

RŒPERA AURANTIACA

Is a natiue of the interior of New Holland; the flowers are of an orange yellow. It has been raised in the garden of the Horticultural Society, where it flowers in the open border during July.

PSORALEA CINEREA.

An annual plant, of little beauty, with small purple flowers. A native of the same place as the above.

PICRIS BARBARORUM.

A cichoraceous plant, a native of New Holland, where it is used by the natives as an article of food; and Dr. Lindley says it is about as fit for this purpose as the common sow thistle.

PIMELEA CRINITA.

Said to be a pretty little plant, with white flowers. It has flowered in the collection of Robt. Mangles, Esq. of Sunning Hill. It is a native of Swan River.

NICOTIANA ROTUNDIFOLIA.

Also a native of Swan River, and introduced by the same gentleman as the above. The flowers are smaller than those of N. suancoleus, and the leaves resemble those of Petunia nyctaginiflyra. It is a hardy annual with white flowers.

THYSANOTUS INTRICATUS.

A figure of this pretty plant is promised to be given in the Bot. Reg.

ECHEVERIA SECUNDA.

Raised in the garden of Sir Chas. Lemon. It is a Mexican plant, requiring a high temperature a gravelly soil and very little water.

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PAXTONIA ROSEA.

Said to be a most curious plant, sent from Manilla, by Mr. Cumming. It flowered in the collection of Mcsrs. Loddige during June last This genus has been named in honour of Mr. Paxton, whose name deserves to be permanently associated with Orchidaciæ, a fact which will be readily admitted by all who have witnessed the admirable manner this curious and orna mental family is managed at Chatsworth.

CATASETUM ATRATUM.

A native of Brazil, and cultivated by Messrs. Loddige. The flowers are dark. A figure will shortly be given in the Bot. Reg.

ONCIDIUM PULVINATUM.

A desirable plant, resembling O. divaricatum. The panicle of the flowers is eight or nine feet in length. A figure of this is also promised.

MAXILLARIA VITELINA.

This is a very beautiful plant, with yellow flowers, a native of Brazil, remarkable for having a rich deep brown spot in the centre of its yellow lip.

POLYGONUM AMPLEXICABLE.

"This charming herbaceous plant, inhabiting the mountains in the north of India, with long graceful racemes of the most brilliant ruby-coloured flowers," has lately made its appearance among some plants raised from seeds; we are not informed where, but a figure is promised. Its flowering season is July and August.

AMPELYGONUM CHINENSE.

On examination, Dr. Lindley has determined to construct a new genus for this plant, and has assigned for it the name of Cephalophilon. From this plant Indigo of an excellent quality is obtained. "Polygonum tinctorium as in our gardens, is at this time extensively cultivated in Belgium as a domestic substitute for the tropical Indigo, and is said to produce the dye in great abundance, and of the finest quality."

SPIRANTHES DIURETICA.

A native of Chili, with white and green flowers, studded in a beautiful manner with cristalline points. It is an orchidaceous plant, succeeding very well in the greenhouse.

PODOLEPIS CONTORTA.

A pretty perennial plant, with golden yellow flowers and dark green fleshy leaves. The flower stem is from six to nine inches high. Seeds of this plant were sent from Van Dieman's Land, by Mr. J. Bunce, to the Horticultural Society, London.

BERBERIS TENUIFOLIA.

This will prove a most valuable addition to the interesting and beautiful evergreens composing this genus. It has been sent from Vera Cruz, by Mr. Hartweg, to the Horticultural Society, London. It is expected to be nearly as hardy as B. fascicularis, and is described as "an evergreen bush with thin, smooth, rather glaucus pinnated leaves, entirely free from all spinosity."

SEDUM MISERUM.

A succulent plant of no beauty; a native of Mexico.

CARPESIUM PUBESCENS.

Seeds of this plant have been received from Dr. Falcoher; a plant of little importance, and a mere variety of C. nepaucense.

ONCIDIUM HIANS.

A small species approaching near to O. carinatum; a native of Brazil, and cultivated by Messrs. Rollessons. "It has small yellow and brown flowers, with an extraordinary appendage to the lip, erect white fleshy, as long as the column parallel with that organ, and resembling the four fingers of the hand, a little hollowed, and closed together. This is quite a new modification of structure.

VANAA LAMELLATA.

The flowers of this plant are as large as those of V. Rozburghi. The flowers are pale yellow, and stained with red. It is nearly allied to V. spalhutata, a species common in the East Indies, but which no one seems yet to have imported.

ENTELLA PALMATA.

A greenhouse shrub, occasionally cultivated in collections under the name of sparmannia palmata.

CYNOGLOSSUM GRANDIFLORUM.

A beautiful herbaceous plant, growing to the height of nearly three feet, with a strong and branching stem. The flowers are blue, bordered with white.

HYDROTÆNIA MELEAGRIS.

The curious plant in question, forming the basis of a new genus, has been found near the Real del Monte mines in Mexico, and communicated to Dr. Lindley, by John Rogers, jun. Esq., of Seven Oaks. It would appear to be intermediate between tigridia and tritillaria. The flower-stem is about eighteen inches high, and the flowers are in form and colour like tritillaria pyrenaica, but somewhat smaller.

MORRENIA ODORATA.

A netive of Buenos Ayres, and raised from seeds in the gardens of the Horticultural Society, London. This is a greenhouse plant, flowering in August and September. The name Morrenia has been given to this genus, to commemmorate the name of Professor Chas. Morren, of Liege. The species in question requires the protection of the greenhouse, and is a dwarf creeper, with small dingy green flowers.

CYPELLA PLUMBEA.

Seeds of this plant have been introduced from Mexico, by George Frederick Dickson, Esq. It has somewhat the appearance of tigridia, and like this plant, the flowers are equally fugitive.

BANISTERIA TENUIS.

A native of Buenos Ayres. The flowers are a bright yellow, and the plant is a greenhouse creeper.

PHYSOSIPHON CARINATUS.

This plant has recently been imported from Mexico, by George Barker, Esq., of Birmingham.

MISCELLANIES.

Having been a subscriber to your very interesting Magazine from the time of its commencement, I must allow it has afforded me an abundant source of pleasure and delight; for, though I am but a poor cottager, I am

a great admirer of floriculture, and gardening in general, and the pages of your valuable work are so congenial to my mind, that I am induced to indulge my scribbling humour with offering a few remarks on the great value and propriety of such a pleasing and interesting publication, though what I offer will not be fit to compete with the remarks of your very judicious and able correspondents. I was much pleased with your observations in the January number, for 1837, on the formation of botanical and floricultural gardens, and likewise some very able remarks by an admirer of flowers; for, though my rustic abode will afford me but very faint conceptions of such extensive gardens, I am glad to hear of their prosperity. There is something so very delightful with regard to flowers, to all classes, from the wisest of men to the child of the humblest cottager! How beautiful is the figurative language of the wise man, when he breaks out as in an ecstacy-" For lo! the winter is past, the rain is over and gone, the flowers appear on the earth, the time of the singing of birds is come, and the voice of the turtle is heard in our land; the fig tree putteth forth her green figs, and the vines with the tender grapes give a good smell." Shenstone, that sweet pastoral poet, we read, was a great admirer of landscape gardening; and the pious Hervey, no doubt, loved his flower garden, when he wrote his Reflections; and many others, eminent both for their sagacity and piety in the present day, are seeking for information on the culture of the various tribes of flowers. Again, how animating it is to see the lowly wall of the rustic labourer covered with wreaths of fragrant roses and jessamine, and his little offspring rambling in search of the humble primrose and violet, to grace the little garden allotted them for their own amusement. Instructive nature, I would say; but is it nature or the instinct of nature presses so hard on my mind? No; the clown, whose mind is dull of conception, will admire and pluck a flower, be it ever so humble, by the side of the path where he is walking. As a friend to floriculture, I offer these simple remarks; and if they are worthy of being noticed in your valuable and interesting publication, I shall take an opportunity of giving a few hints in a future Magazine, which, I hope, will be more worthy of notice-

JOSH. FURNISS, JUN.

Wadon Lois, Northamptonshire.

[We have given insertion to the above remarks, believing that, although the writer has designated himself a Cottager, his "unconnected thoughts" represent a mind of a higher and more intellectual kind than that pervading the minds of cottagers generally; and, therefore, capable of affording some useful hints on subjects immediately connected with gardening and floriculture. We, therefore, hold him pledged to his promise, and shall be glad to hear from him at an early opportunity.] ED.

In a climate so subject to sudden variations of temperature as that of Britain, in which a frosty night is often preceded by a wet evening, and succeeded by a bright and warm morning, the blossoms of almost every species of fruit tree trained to a wall, usually set best under the protection of some degree of covering. This seems to operate beneficially in several different ways. It often prevents the blossoms being wetted, and thence renders them less subject to injury from any moderate degree of cold. It diminishes the radiation of heat from the wall during clear and cold nights, and it prevents the sudden transition from a low to a high temperature in warm and bright mornings; and the sudden transition from a low to a high temperature is much more fatal to vegetables, as it is to animal life, than an equally sudden and equally violent transition from a high to a low temperature. Even the blossoms of standard fruit trees, which are situated in their interior parts; when such trees have been properly pruned, receive much protection from the external branches, and not unfrequently escape destruction from frost, where all those which grow upon more exposed branches perish. Amongst

the various methods of protecting the blossoms of wall trees from frost, which are adopted by gardeners, it must be admitted, that the most efficient are those by which the trees are thickly covered during the night, and fully exposed during the day; and if this kind of protection be given to the Peach and Nectarine trees very early in the spring, it not only preserves the blossoms, but it also prevents the appearance of blistered leaves, which are generally abundant in cold and unfavourable seasons. This diseased state of the leaf is often confounded with that which is occasioned by the bite of the Aphis, but it is in its origin wholly different from that, and arises solely from the leaf having, whilst very small and young, been injured by frost. The cheapest and easiest method of protecting the blossoms of wall trees from frost is, by small branches of Birch trees, collected about the end of June, as soon as the leaves are full-grown; these are preserved under cover till the following spring. They are then secured to the walls by a few nails and shreds, with their point downwards, their upper ends being in contact with the wall, and the opposite slender extremities projecting eight or ten inches from it. The discretion of the gardener must direct him relatively to the quantity of the material to be used with advantage. If the situation of his garden be low, he may cover his trees more closely than if it be high, but the covering should never be so thick or close as to prevent a large portion of the blossoms being visible to a person passing within a few feet of the wall; and under such circumstances, almost every blossom will in some parts of the day, receive a portion of the solar rays. As the danger to be apprehended from frost diminishes, and the quantity of young shoots and foliage increases, the covering material should at successive periods, and in small quantities, be taken away.

DOUBLE HOLLYHOCK.—The double flowers so much admired by the florists. are termed by the botanist, vegetable monsters, in some of these the petals are multiplied three or four times, but without excluding the stamens, hence they produce some seeds, as campanula and stramonium; but in others, the petals become so numerous as totally to exclude the stamens or males, as caltha peronica and alcea, these produce no seeds, and are termed eunucho, Phil. Bot. No. 150. These vegetables monsters are formed in many ways. 1st. By the multiplication of the petals, and the exclusion of the nectarines, as in larkspur. 2nd. By the multiplication of the nectarines, and exclusion of the petals, as in columbine. 3rd. In some flowers growing in cymes, the wheelshaped flowers in the margin are multiplied to the exclusion of the bellshaped flowers in the centre, as in the golden rose. 4th. By the elongation of the florets in the centre, instances of both these are found in the daisy and feveriew. The perianth is not changed in double flowers, hence the genus, or family, may be often discovered by the calyx, as in hepatica ranunculus alcea. In those flowers which have many petals, the lowest series of the petals remains unchanged in respect to number, hence the natural number of the petals is easily discovered, as in poppies, roses, and nigella, or devil in a bush.-Phil. Bot. p. 128.

THE MICHAELMAS DAISY.
Last smile for the departing year,
Thy sisters sweet are flown,
Thy pensive wreath is far more dear,
For blooming thus alone.

Thy tender blast, thy simple frame, Unnotic'd might be past; But now thou com'st with softer claim, The loveliest and the last.

Sweet are the charms in thee we find, Emblem of Hope's gay wing; Tis thine to call pass'd bloom to mind, To promise future Spring.

BUDS AND BULBS.

Where dwell my vegetative realms benumbed, In buds imprisoned, or in bulbs intomb'd.

A tree is, properly speaking, a family or swarm of buds, each bud being an individual plant, for if one of these buds be torn or cut out, and planted in the earth, with a glass cup inverted over it, to prevent its exhalation from being at first greater than its power of absorption, it will produce a tree similar to its parent; each bud has a leaf, which is its lungs, appropriated to it, and the bark of the tree is a congeries of the roots of these individual buds, whence old hollow trees are often seen to have some branches flourish with vigour, after the internal wood is almost entirely decayed and vanished. According to this idea, Linneus has observed that trees and shrubs are roots above ground, for if a tree be inverted, leaves will grow from the root part, and roots from the trunk part. Phil. Bot. p. 39. Hence it appears, that vegetables have two methods of propagating themselves, the oviparous as by seeds, and the viviparous as by their buds and buibs, and that the individual plants, whether from seeds or buds, or bulbs, are all annual productions, like many kinds of insects, as the silk worm, the parent perishing in the autumn, after having produced an embryon, which lies in a torpid state during the winter, and is matured in the succeeding summer. Hence Linneus names bude and bulbs, the winter cradles of the plant or hybernacula, and might have given the same term to seeds In warm climates, few plants produce buds, as the vegetable life can be completed in one summer, and hence the hybernacula is not wanted; in cold climates also, some plants do not produce buds, as philadelphus, fraugula, viburnum, ivy, heath, wood nightshade, rue, geranium.

The bulbs of plants are another kind of winter cradle or hybernacle, adhering to the descending trunk, and are found in the perrenial herbaceous plants, which are too tender to bear the cold of the winter. The production of these subterraneous winter lodges, is not yet, perhaps, clearly understood; they have been distributed by Linneus according to their forms, into scaly, solid, coated, and jointed bulbs, which, however, does not elucidate their manner of production. As the buds of trees may be truly esteemed individual annual plants, their roots constituting the bark of the trees, it follows that these roots (viz. of each individual bud) spread themselves over the last years bark, making a new bark over the old one, and thence descending cover with a new bark, the old roots also in the same manner. A similar circumstance is supposed to happen in some herbaceous plants, that is a new bark is annually produced over the old root, and thus for some years, at least, the old root or caudex increases in size, and puts up new stems. As these roots increase in size, the central part changes like the internal wood of a tree, and does not possess any vegetable life, and, therefore, gives out no fibres or root-lets, and hence appears bitten off as in valerian, plantain, and devil's bit. And this decay of the central part of the root, has given occasion to the belief of the root fibres, drawing down the bulb so much, insisted on by Mr. Milner. in his Botanical Dictionary. Art. Bulb.

From the observations of various kinds of bulbous roots, at different times of their growth, it appears probable that all bulbous roots, properly so called, perish annually in this climate Bradley Miller, and the author of the Spectacle de la Nature, observe that the tulip annually renews its bulbs, for the stalk of the old flower is found under the old dry coat, but on the outside of the new bulb. This large new bulb, is the flowering bulb, but besides this, there are other small new bulbs, produced between the coats of this large one, but from the same caudex, (or circle from which the root fibres spring); these small bulbs, are leaf-bearing bulbs, and renew themselves annually with increasing size, till they bear flowers.

In examining the tulip, iris, hyacinth, and harebell, the new bulb was invariably found between the flower-stem and the base of the innermost leaf of those roots which had flowered, and inclosed by the base of the innermost

leaf in those roots, which had not flowered in both cases adhering to the

caudex or fleshy circle, from which the root fibres spring.

Hence it is probable, that the bulbs of hyacinths are renewed annually, but that this is performed from the caudex within the old bulb, the outer coat of which does not so shrivel as in crocus and fritillary, and hence the change is not so apparent. But as soon as the flower is advanced, the new bulbs may be seen on dissection, nor does the annual increase of the size of the root of cyclamen, and of aletris capensis, militate against this annual renewal of them, since the leaf buds or off sets, as described above, are increased in size as they are annually renewed.

It is not generally known that the Ocleander is capable of enduring so much frost as that represented in the following remarks:—A double flowering variety of this plant was permitted to stand in a back yard during the whole of last winter, with the pot fully exposed to the severe frost. No protection of any kind was given to it; the pot containing the roots of the plant was placed on the pavement. It may be right to observe that neither the pot nor any part of the plant was exposed to the direct rays of the sun. The species comprising this genus are natives of the South of Europe and the East Indies.

It is a singular but well known fact that plants will endure a much greater degree of frost at one time than another. Several Neriums, well established and protected on a south wall in the Sheffield Gardens, were quite killed during the severe frost of last winter.

A subject has often occupied my mind, and, I doubt not, it has also engaged the attention of others interested in the culture of Fruit bearing plants, especially those of Peaches, Nectarines, Grapes, Pines, and various others, usually met with in the forcing houses in English Gardens. What I allude to is the mode of maintaining and applying artificial heat to these structures at those seasons during which the trees are growing, bearing, and maturing their fruit. The questions which have so frequently occurred to my mind are these :- Why is the temperature of Peach houses, &c. &c. raised so high during the early part of the evening, and often throughout the whole of the night? I am aware of the answer usually given by those who have the management of forcing houses, namely, that it is necessary to keep the temperature high during the early part of cold nights, in order that it may not fall below a given temperature by the time the fires can be attended to in the morning. This may be good as far as it goes; but to every reflecting mind it will appear at variance with those laws which nature has established, and from which there are no exceptions. In every country throughout the globe, no instance occurs where the difference between the temperature during night and that of day is so nearly equal as that generally aimed at in forcing houses.

The consequences of this excess of heat during night are, there is much reason to believe, highly injurious to fruit trees of temperate climates, and far from beneficial to those of tropical countries, the temperature of which are in many instances low during the night. In Jamaica, and other mountainous islands of the West Indies, the air upon the higher parts of these islands becomes soon after sun-set chilled and condensed, and generally displacing the warmer air of the valleys; and yet it is here where the sugar canes, coffee, and many of the most valuable productions of the islands, are cultivated with the greatest success. This is a subject deserving the attention of caltivators generally, and much of the success of forcing fruits of every description, depends on this principle.

A splendid new Salvia, with blue flowers, will shortly make its appearance from one of the London Nurseries, said to be one of the greatest acquisitions to this class of plants that has been made for some years. It is intended to be figured in the Horticultural Transactions.



A new species of Araucaria, with branches and leaves resembling those of the larger kinds of Ferns, is said to have been recently introduced to the Belfast Botanical Garden.

DOUBLE FLOWERS.—It is a commonly received opinion that double flowers of the stock are raised with more certainty from seeds procured from a plant that bloomed on a bed surrounded with double flowers; indeed it is a general practice to save such plants for seed, in consequence of these supposed advantages. Is there any foundation for such an opinion, is not the double flower an unnatural production, incapable of producing seed itself, or of imparting farinacious matter to another? Does, in fact, the double flower produce any pollen.

QUERIES, REMARKS, &c.

As a Subscriber to your excellent Magazine, may I ask the favour of you, or some of your numerous Correspondents, supplying me with a list of some of the most ornamental climbers and shrubs adapted for planting in a conservatory, (which is about eighteen feet high), say from twelve to twenty of each kind. An answer to the above will greatly oblige your most obedient Servant,

September 17, 1838.

A Young GARDENER.

I will feel obliged to you, or any reader of the Floricultural Magazine, for the best information regarding the management of Orange Trees. I have lately taken under my care a few plants of this class; they are in a very bad state of health, some having lost the greater part of their leaves, others quite yellow, and all in a very sickly condition. A few of the trees are planted in the open border, in a mixture of black soil and dung; and a few are kept in tubs. Owing to the large size of most of the trees, I am unable to apply bottom heat to them. Is it advisable to lift and repot those that have been turned out into the borders? Perhaps you or some of your readers will have the kindness to inform me on these particulars, and you will much oblige.

September 18, 1838.

W. M.

A Constant Subscriber to your Magazine is anxious for some information on the culture of the Cyclamen, from the first germination of the seed upwards; and would also be glad to learn from some of your more experienced Correspondents, why the Fuchias and Thumbergias drop their buds when the plant appears in perfect health, no gardener in the neighbourhood being able to give a satisfactory reason. Should these queries be considered worthy of notice, it is hoped that the information given may apply, not merely to those who have the advantages of greenhouses, hothouses, &c. but likewise to those who have none of these advantages. It would add to the obligation, to be informed what is the best time and manner of sowing perennial seeds, and whether or not it is desirable to place them in a hot bed, in order to raise them.

It is hoped that it will not be considered an impertinence, if the writer adds a hint which would considerably increase the usefulness of your valued Magazine, which is, that if each writer on the culture of different flowers would add the locality where such culture has been successful, it would enable the reader, in following the treatment recommended, to make due allowance for difference of climate, without which the same plans adopted in a different part of England, might prove wholly abortive.

A CONSTANT READER.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXX.-NOVEMBER, 1838.

ORIGINAL COMMUNICATIONS.

ON THE MERITS, CULTURE, &c. OF THE ROSE FABOIER.

BY ROSA.

I have a small plot of garden ground, and am, of course, anxious to make the most of it for the growth of flowers. I have, therefore, bestowed much care in selecting those only which continue to bloom for the greatest length of time during the summer and autumn months; amongst the most remarkable of these is the Rose Faboier. Under this name the plant in question was received from Messrs. Rivers, of Sawbridgeworth Nursery, Hertfordshire. It forms a bed in my small garden, and has been in bloom upwards of four months; it is at this moment in the highest state of perfection, unsurpassed in richness and delicacy of colour by the gayest roses of June and July. It is one of the tea-scented varieties, seldom attaining more than two or three feet in height.

On its culture there is little to remark, at least I know of nothing peculiar in its treatment; except that it is much more hardy than most of the kinds to which it belongs. It endured the whole of the frost of last winter without any protection. Several others belonging to this class were near it, but most of them have been killed.

The soil in which my roses are grown is a rich loam, of a dark colour.

As an autumn flower, I know of nothing equal to the rose in question; and this is the only reason that has induced me to trouble you with the above remarks.

Rosa.

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ON THE CULTURE, HABITS, &c. OF PHLOX DRUMMONDII.

BY T. T.

The following peculiarities in the habits and culture of Phlox Drummondii, may not be generally known, I, therefore, send them to you to use in any way you may see fit. Late in the summer of 1837, I obtained a plant of this very beautiful annual; it was placed in the greenhouse, and carefully attended to. Here it soon exhibited an indication to grow; it was encouraged by repotting it into suitable soil with increased room for its roots, and by this treatment it pushed vigorously, affording an opportunity of increasing it by cuttings, which readily struck root. By this means I obtained a large stock of plants, which I gradually hardened, until they were fit to plant in the open border about the end of May. The situation selected for this purpose was a border, shaded from the mid-day sun; here they made but little progress for several months: but are now (October the 3rd) in the most vigorous health, and covered with flower, and buds ready to open.

From what has been stated, it would appear that autumn is the most suitable season for raising this plant, especially when seeds can be obtained.

T. T.

[We quite agree with the above remarks. We have seen this plant in several situations, and from our own observation we should conclude, that a humid situation was the only one where this splendid annual could be cultivated with success.—Ep.]

ON THE CONSTRUCTION OF COVERS, AND THE PRESERVATION OF TENDER PLANTS DURING THE WINTER.

BY J. WILLIAMS.

The season is now very fast approaching, when the attention of the amateur and general cultivator of plants will be directed to the best means of preserving plants usually turned into the borders during the summer season, many of which it is customary to leave in that situation, partly because room cannot be afforded them in the greenhouse, and partly because it is more or less the object of every cultivator to ascertain the habits and properties of the new plants with which he is annually made acquainted. For several years I have been in the practice of making, keeping up



and repairing a number of very simple but efficient structures for this purpose. One of these I shall endeavour to describe, and the ingenuity of the gardener will readily suggest to him such other forms as the particular kinds of plants may require. I procure a quantity of quarter-inch iron wire: this is bent into round or oval forms; the first is supposed to be laid on the ground, to which are fastened upright wires, at nine to twelve inches apart; the number of these depend on the diameter of the base. The length of the upright wire also depend on circumstances regulated by the height of the plants to be covered. They are brought together at the top and securely tied, being previously bent into a dome, or any other more convenient tapering form. Wire of smaller size is then fastened to the lower rim, and then made to pass round the upright wires in a horizontal direction, at the distance of six or nine inches apart, until it reach the top. When this is completed, it will be found to have acquired considerable firmness and strength. It is then painted with red lead, and when dry neatly covered with strong coarse canvass, well sized and painted. The sizes which I find most convenient for single plants, are from two to three feet in diameter, and three to four in height; but no directions can be given that would be of any value in this respect. The magnitude of the plants to be covered, must alone determine what the precise dimensions of the covers ought to be.

For the more tender and valuable kinds of plants, I sometimes provide coverings of a thicker kind, and this I obtain by covering or thatching the wire frame with straw, neatly tied down, and this is also varied in thickness according to circumstances; but in all cases I prefer the canvass or cotton covering on the surface, not only because it is much neater, but when well painted, it throws off the whole of the rain, and the thatch underneath is kept dry, and, therefore, affording a much more efficient protection from frost, than if allowed to become saturated with wet. My mode of describing this simple but valuable covering for tender plants appears tedious, the materials, however, are neither expensive nor difficult to apply, and any workman of moderate intellectual capacity will be found capable of using them.

WILLIAMS.

ON THE CULTURE, PROPAGATION, &c. OF LOASA AURANTIACA.

BY D. FERGUSON, GARDENER, HYLANDS, NEAR CHELMSFORD, ESSEX.

As it appears by your Magazine for September, that Illicium floridindum is not generally known to be hardy enough to stand our winters, I beg to say, that we have a few plants, planted out amongst our American plants here, which stood the severe frosts of the past winter without the least injury, having no protection whatever; although on the morning of the 21st of January, the thermometer fell 29 degrees below the freezing point. One of those plants is five feet in height, and the branches are nearly nine feet in diameter, and have stood the frost of more than a dozen winters. As a proof of their hardiness and flowering, I exhibited at the Royal Society's show in June last, a collection of cut flowers, nearly three feet square, gathered from the plant in question.

The following remarks on Loasa Aurantiaca may be worthy of a place in your Magazine. Having seen, during the autumn of 1837, a fine plant of this species, growing in the front of one of the houses in the Glasgow Botanic Gardens, I brought a plant with me, and kept it in heat through the winter, which flowered and ripened a pod or two of seed in the course of the following March, which were sown as soon as ripe. From this I raised a large stock of plants by the middle of May; and by keeping them in heat till the end of the month, they were fit to plant out by the middle of June, after being hardened in a cool frame. At present I have a piece of wall 18 feet in length, by 12 in height, covered with this plant; the foliage is good, and the thousands of flowers standing out from the wall, eight or ten inches, presents a splendid and interesting appearance. In another situation, I have it mixed with Maurandyas, Lophospermums, Eccremocarpus, &c. These agree in habit and colour, and are exceedingly interesting, and very much admired. It is also mixed with various species of Clematis, the habits of which are still more assimilated to each other than the preceding, and in this way it is well worth grow-Indeed the general habit of Loasa Aurantiaca appears to be peculiarly fitted to mingle in the society, and to receive the help of other plants, less dependent than itself.

I may also mention, that besides growing it on trellisses, walls, &c. &c. I have it growing up the stems of standard roses, Cytuses,

Robinias, and in various other situations, where it would have been difficult to cultivate any other kind of creeper with equal success.

When this plant becomes better known, I cannot doubt from the numerous and very different situations in which I have tried it, but it will be a universal favourite, particularly with those who have but little room for preserving plants through the winter. It will succeed well when sown in the spring, and grows here quicker than Convolvulus major.

I intend protecting some with double matts, and some with single ones, and others I intend to leave without any protection whatever, and shall be happy to send you the results next spring, should you think them worthy of a place in your Magazine.

D. FERGUSON.

[This is the kind of information which we are at all times exceedingly glad to receive, more especially from persons like our esteemed correspondent, whose habits of attentive observation cannot fail to render acceptable any remarks with which he may at any time feel inclined to favour us.—ED.]

SOME REMARKS ON THE CULTURE, &c. OF CLIVIA NOBILIS. BY G. SMITH.

I know not whether the following remarks will be deemed of sufficient interest to be worth publishing in your Floricultural Magazine; they are, however, suggested by the success which has attended the cultivation of what I find to be a stove plant of very great interestand beauty, and well deserving the attention of every amateur who possesses a small stove. The plant to which I refer is Clivia Nobilis. It is slow of growth, requiring five or six years to bring it to maturity, so as to produce flowers. When the plants attain considerable size, they seldom fail to flower three or four times a year; and, although less gay than many others, whose fugitive flowers bloom only for a day, the noble corymbe of green and yellow flowers of the Clivia remain in bloom for weeks. The soil in which I find this plant to succeed the best, is a mixture of sandy loam, peat, and sand. The pots require to be well drained with pieces of broken pots or small stones, and to be watered with great care, as the roots are thick and fleshy; and, therefore, very susceptible of injury from a too liberal supply of water. I find it much benefited by being set aside in some cool part of the stove for a few weeks during the winter, and, when in this situation, it ought to receive but little water. It may, towards March or April, be examined at the roots, and if the soil has become soured or stiff, it ought to be carefully removed from among the roots, and the plant again reported and placed in heat. By following this plan, I find Clivia Nobilis to be one of the most interesting and beautiful of stove plants.

Camberwell, Surrey.

G. SMITH.

CULTURE OF GLOXINIAS.

BY MR. M'EVOY.

Gloxinias are natives of tropical countries, where they are found growing in the woods and confines of dense forests, the black vegetable soil of which has been accumulating for ages, from the annual dropping of both leaves and bark. Moreover, they are subject to excessive rains, which are followed by the genial rays of the meridian sun; the exhalations caused thereby produce in a rapid manner the full development of their fine fleshy leaves, and lovely white, blue, and purple blossoms, in a manner almost in vain to be looked for in British stoves. Having here a large collection of Gloxinias (between 60 and 70 plants), during the winter of 1836 we kept them quite green in leaf, in a small stove, where the heat seldom exceeded 60 degrees by day and 50 degrees by night. In the beginning of March they were examined, shifting some, and surfacing others as they required, putting them into an increased temperature, where they flowered beautifully throughout the summer months, yet not equal to the specimens whichmy mind's eye has taught me to believe flourish in the humid groves of South America. Determined to imitate nature as far as possible, I commenced last autumn by gradually decreasing the quantity of water. In November about 30 of them were perfectly decayed, when we cleansed them from dead stems and leaves. They were afterwards placed in a pit along with some Gesnerias, mentioned in the June number of the Floricultural Magazine, all of which were covered a foot deep with decayed tan, where they remained till the middle of February, when we examined and found them all pushing through the soil in the pots.

We prepared the following compost for them, which we aired in the stove previous to use: - Soil from the rotten stump of an oak tree, quite decayed, leaf mould, sandy turfy heath mould, and pure white sand, in equal parts, to which we added about one-fifth of light turfy loam, well incorporated, but not sifted. Over the drainage we put a layer of half decayed leaf and stick mould; shaking the soil well from the plants, and potting them in pots from large thirty-twos to large sixteens, according as the plants were strong or weak; after potting they received a good watering, and were placed on a trellis over the flue in a forcing vinery, which ranged from 65 to 75 degrees Fahrenheit, watering very cautiously during the time the leaves were breaking through the soil, but keeping the flue moist by frequent waterings, and by placing two or three pans filled with water immediately on the flue, for the purpose of producing a humid atmosphere, resembling in some degree that of their own native habitats. As the leaves increased in size the watering was more frequent, also getting a dew-like shower, morning and evening, from a fine rosed watering pot, with water of the temperature of the house. We gave them once a week a watering with liquid manure, which increased their vigour very much. They began flowering about the middle of April, but about the middle of June they were in their greatest perfection, surpassing anything of the kind I have ever seen; indeed, the plants were so large, that they occupied the greater part of the stage of our flower house. Some plants of caulescens, havingseveral stems from twelve to sixteen inches high, surmounted with numerous flowers, on one of which I counted thirty-five flowers in full perfection at one time, and on one plant of speciosa I counted forty-three perfect flowers, and the same plant during the flowering season produced no less a number than one hundred and seventeen perfect flowers; the plant measuring from the tip of the leaves on opposite sides, twentythree inches in diameter, single leaves of which measured nine inches in diameter; and I have frequently heard visitors compare the leaves to those of cabbages, indeed, of the whole thirty plants any one of the number might be chosen as a picture bordering on perfection. One plant of candida had forty flowers in bloom at one time; after which I gradually dried it, gave it rest for about six weeks, again brought it in action by gentle waterings, and it

is now coming beautifully and thickly into flower; likewise plants of caulescens, maculata, and the lovely little hirsuta. The remaining number of our collection (about forty plants) were not covered with tan, the stems and leaves not being sufficiently decayed for that purpose, and they were preserved in a temperature of about forty degrees, quite dry; they were not excited till the beginning of April, when they flowered in succession after the first lot, but not in such perfection as those I have described. I am aware that many eminent cultivators do not agree in drying off the plants in autumn, asserting that by so doing they are liable to perish by getting too dry; certain it is, that by keeping the plants in the stove, where a heat of from sixty to seventy degrees is required, and where vapour is generated by watering, exhalations from bark, &c., the plants are kept more or less in excitement, and that when brought into action, many of them are quite unable to absorb the quantity of food bestowed on them in the shape of waterings, and therefore many of them perish. I can with safety say that by either methods we did not loose a single plant. But those that were preserved in tan, grew and flowered with nearly double the vigour of those that were exposed in pots. Gloxinias can be increased with as much ease as they can be flowered, namely-by cuttings, division by the leaves, or by seeds, which ripen with us most abundantly. In the cultivation of maculata, it is requisite to thin out the shoots to two or three at most, by which they will grow between two and three feet high. About three weeks ago, in shifting a large plant of maculata, we removed all the smaller suckers, one of which we put in a sixty-pot, in sandy peat, merely putting a little white sand round the stemand plunging it in a hot-bed without a glass; it is now beautifully rooted. I write this to show with what ease they may be propagated. Streptocarpus Rexii is another plant we subjected to the same treatment of drying, culture, &c. as that given to the Gloxinias, adding, however, a little more loam to the compost. We have plants in sixteen size-pots, forming a dense mass of leaves and flowers; on one plant I counted one hundred and sixty flower stems, having from twelve to thirty flowers on it at one time. Sinningia guttata we preserved in the same manner; it has perfected nearly two hundred and fifty flowers.

Gesneria Splendens.—This truly spledid plant, by following the

on the culture of the fuschia during winter. 129 plan detailed in the June Number of the Floricultural Magazine, has two stems, upwards of five feet in high—the leaves seven inches in diameter, with more than two hundred and fifty flowers on it, forming a specimen of the most surpassing beauty.

JOHN M'EVOY.

[We have before brought the plants belonging the natural order Gesnereze to the notice of our readers, and we would again repeat the recommendation. We do not know of any class of plants possessing superior merit, and but few that are at all equal to these in the profuse production of flowers, many of which are of the gayest and richest hues of floral beauty. Add to this the ease and certainty with which they may be caltivated. The above very ample and practical observations, may be followed with the most complete success.—Ep.]

REMARKS ON THE CULTURE AND PRESERVATION OF THE FUSCHIA DURING WINTER.

BY J. DYSON, GARDENER TO J. PIME, WALLBROOK.

Few plants are more ornamental than the various and numerous varieties of the Fuschia. In many situations, they are, of course, hardy, except in winter, such as the last; yet although this is the case, they are even in mild winters usually injured in the tops, and not unfrequently killed to the ground. To prevent this, I have an open shade facing the south, the front of which I fill up during the winter, with the lights of my cucumber frames. In this shade I store by my Fuschias, which I have grown for several years in the flower garden; they are now from ten to twelve feet in height in the stems. I lift them in the autumn, about the middle of October, and plant their roots carefully in light rich soil on the floor of this shade. In this situation they remain fully exposed in the front, until the frosty nights set in; the glass frames are then placed in the openings, but plenty of air is allowed on all occasions when the weather is mild. It sometimes occurs during long continued damp weather, that the stems show an appearance of mould and decay. When this is observed, I immediately obtain some newly slacked lime, and when in the powdered state, it is thrown on the stems and branches, to which it readily adheres. and hardens the bark; when this has remained on for a few days I take the first opportunity of clear sun shine; the garden engine is then applied, and the lime washed off, which is easily effected where it is loose, and where it has become hard it is of no importance, and seldom causes any injury, even when allowed to remain on till the season arrive for again planting them out. The washing must not be often repeated, otherwise it occasions damp in the floor, and this must be avoided as much as possible. About the end of April, I prune all the decayed wood from the trunks and branches, they are then planted out for the summer into the borders and on the lawn. They commence growing freely about the end of June, and shortly afterwards produce flowers, these increase until they are displayed in the greatest profusion throughout the whole of the Autumn months. By this easy and simple method, I am enabled to provide a quantity of these graceful and showy plants; they are indeed the greatest ornament I have in my garden.

J. DYSON.

ON RINGING FRUIT TREES.

BY A WELL WISHER TO GARDENING.

A friend of mine, who possesses a small, but well-managed kitchen garden, surrounding which is a good brick wall; on a west aspect of this wall are several of the newer kinds of Pears, for these a good border was prepared in which the trees were planted seven years ago. They have now completely filled the whole of the spaces allotted to each, and two years ago, in order to zetard their over luxuriance, he acted on the suggestion of a friend, and performed on two of these, what is termed ringing, or removing about half an inch of the bark round the whole of the stem, just below the insertion of the first branches; this had the desired effect of entirely checking their over luxuriance, and they have this year produced an excellent crop of fruit, but I fear, exhibit the appearance of again returning to their former habits, as the branches produced this year are much stronger than last, and he is apprehensive this tendency will increase as the wounds are now nearly healed on the stem. He has requested me to forward this to your Magazine, with the view of inducing others to communicate with you on the same subject.

[We shall be glad to have the opinious of those who may have given their attention to this subject; it is an extensive field, and one that will amply repay those whose time and opportunity enable them to explore its vast resources. Until some one else takes up the question, we shall offer the

few following remarks. Ringing of fruit trees can only be regarded as expedient, the effects produced, by which are therefore temporary, and the principal cause is left untouched. In all cases of this kind for Apples, Plums, and in fact, it is more or less applicable to fruit bearing trees of all kinds, but especially to Pears; what we would recommend, would be, to lift the trees and replant them, in the course of which, the larger roots should be shortened back, preserving with great care all the small roots and fibers. After this has been performed, they may be sgain replanted in the same situation, if necessary. Pear trees, of any age or magnitude, may be treated in this way, and will seldom fail to produce a permanent tendency to the production of flower and fruit in vegetables of all kinds.—Ep.]

NOTES BY THE EDITOR.

It is generally supposed that the eggs of insects, at least of many kinds, are destroyed to a greater or less extent by the frosts of our severe winters; and it is no unusual remark by those whose property is of such a kind as to render it liable to serious deterioration, when invaded by resistless myriads of destructive insects.

That very severe winters has no influence in reducing the numbers of insects is far from probable, nor is this my present purpose to show. I believe many causes combine to operate so as to lessen the number of eggs and larvæ during winters of more than usual severity; but this I consider to be the effect of relative causes. such as the increased difficulty which the feathered tribes experience, in procuring their scanty and precarious supply of food, when the surface of the earth is rendered impregnable by severe and long continued frost, and probably mantled with snow. Besides. the various species of birds which are permanent inhabitants of our island, and others visiting us at that season, being deprived of a large portion of their ordinary resources, are compelled to make up the deficiency in the woods, trees, and hedge rows of the various neighbourhoods where they cohabit. So that under such circumstances those classes of insects which deposit their eggs on the trunks and branches of trees, are preyed upon to a greater extent than during mild and open winters. But on the other hand, those committed to the protection of the humble herb, in immediate contact with the surface of the earth, and to the fallen foliage of trees, are not only uninjured, but even receive protection from those causes which are often supposed to be destructive of their

existence. These remarks derive force from the observations of eminent entimologists, and from circumstances of recent occurrence. The past winter being one of intense frost, might be referred to as an instance, to show that such causes offer no security against the destructive visitations of insects; and it has, no doubt, attracted the attention of many of our readers that, during the late ungenial spring, the oak woods in many districts throughout England were almost entirely denuded of every vestige of leaf, shortly after making their first but slow and ineffectual effort to clothe themselves with foliage.

Some of the Apple districts have also been visited with insects to such an extent, that in many instances the crop has proved an entire failure. The power of resisting frost, which the eggs of many kinks of insects possess, is far from being well understood; and Hunter and Spallawzani have proved that intense cold does not destroy the eggs of insects. The year 1709, when Fahrenheit's thermometer fell to 1°, is celebrated for its rigour and its fatal effects on plants and animals. Who can believe, exclaims Boerhaave, that the severity of this winter did not destroy the eggs of insects, especially those exposed to its influence in the open fields, on the naked earth, or on the branches of trees? Yet when the spring had tempered the air, these eggs gave birth to the various insects according to their kind, and quite as numerous as if preceded by the mildest winter. The last named author says he exposed eggs to a more rigorous trial than the winter of 1709, by submitting them, especially the silk worm moth and elm butterfly, enclosed in a glass vessel, and buried five hours in a mixture of ice and rock salt, where the thermometer fell 6 degrees below Zero; but in the course of the following spring insects came from all the eggs, and at the same time as those that had suffered no cold. He again submitted the eggs of the same insects to a still greater degree of cold, by exposing them in a moisture of ice, rock salt, with the fuming spirit of nitre which reduced the thermometer to 22 degrees below Zero, without the least injury to the eggs. Thus the eggs of insects continue fertile after being exposed to 22 degrees of frost, while the insects themselves die at 16 and 14 degrees.

EDITOR.





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REFERENCE TO PLATE XXXIII.

LYSINEMA PENTAPETALUM, Fine Petalled Lysinema.

NAT. ORD. EPACRIDEÆ. CLASS PENTANDRIA MONOGYNIA.

For the opportunity of figuring this neat and pretty little plant, we are indebted to the kindness of Messrs. Low and Co., of the Clapton Nursery, London, who, we believe, have plants to spare. The habit is that of Epacris, and the appearance, both of flowers and foliage, resemble that genus; therefore, to those who are acquainted with the high merits of the latter very ornamental family, will consider to be a sufficient recommendation to the plant in question. It is a native of New Holland, and requires the protection of the greenhouse, and the same treatment as the genus Epacris, and similar Australian plants.

DIPLACUS PUNICEUS, Scarlet-flowered Diplacus.

WAT. ORD. SCROPHULARINEÆ, CLASS DIDYNAMIA ANGIOSPERMIA.

This really beautiful plant is a native of St. Diego, in Upper California, flowering in April and May. In its native country it continues to bloom nearly the whole year. The habit is that of the Mimulus Glutinosus, with which it is now classed; and Dr. Lindley says, "Like the other species of this genus it has altogether the habit of a Mimulus, and one of them has, indeed, long been known under the name of Mimulus Glutinosus. The present species is a far taller growing plant than that, and much more of a true shrub." In its native situations it is found near the borders of winter streams, and attaining five or six feet in height. This exceedingly ornamental plant was discovered by Mr. Nuttall, during his western travels, and committed in 1836 to the care of Mr. Buist, of Philadelphia, by whom the whole stock was sold to Messrs. Low and Co., of the Clapton Nursery, in the autumn of 1837, in whose collection it has since bloomed, and to whom we are now indebted for the opportunity of publishing it.

In the Betanical Register Dr. Lindley has published the following species from manuscript papers, which accompanied the above, living plants of which we hope will shortly make their appearance in this country. The

names are -

Diplacus latifolius......Upper California, near Monterrey. leptanthus....California.

longeflorus Upper California, near Santa Barbara.

GALPHIMIA SPLENDENS, Splendid Galphimia.

NAT. ORD. MALPIGIACE ... CLASS DICANDRIA TRIGYNIA.

This very pretty stove plant is at present scarce. The drawing has been made from a plant kindly sent us by Messra. Fisher, Holmes, and Co., of the Handsworth Nursery, near Sheffield. It is a plant of free growth, and we should suppose easily increased by cuttings from the young and tender shoots. This, like most of the plants belonging to the natural order Malpigiaces, is a neat and showy plant, possessing many of the properties common to the order, such as its neat and compact foliage; its showy yellow flowers are produced in very great profusion.

TORMENTILLA TONGUEI, Mr. Tongue's Tormentilla.

NAT. ORD. ROSACEÆ. CLASS ICOSANDRIA POLYGENIA.

Tormentilla Tonguej is a hardy plant of considerable beauty, and remarkably well adapted for planting in rock work. It is of hybrid origin, the particulars of which we have been disappointed in obtaining. The roots of many of the species of this genus are remarkable for their astringent properties, especially *T. creeta*, which is even at present used as a substitute for tanner's bark in many parts of the Western Islands of Scotland.

NOTICES OF NEW PLANTS.

DELPHINIUM INTERMEDIUM, VAR. SAPPHIRINUM, Sapphire-blue
Variable Larkspur. | Edwards's Bot. Reg.

MAT. ORD. RANUNCULACEM. CLASS POLYANDRIA TRIGYNIA.

This variety is remarkable for the compact arrangement of its flowers, being of an intense rich blue, equal, or perhaps superior to any hitherto figured in this work; it has been long cultivated in the Horticultural Society's Garden, where the figure was taken.

"Professor Koch says, that he has raised D. alpinum of W. and Kit. D. Montanum, palmatifidum and hybridum of De Candole, D. cuneatum of Steven, D. urceolatum, of Jaquin, D. Clussianum, of Host, and innumerable

others from the seed of one and the same species."

HELLEBORUS LIVIDUS, Corsican Hellebore.

[Edwards's Bot. Reg.

NAT. ORD. RANUNCULACEE. CLASS POLYANDRIA POLYGYNIA.

Another old inhabitant of this country, said to have been introduced as early as 1710; it is now seldom to be seen in collections, like many cotemporary species, altogether lost to this country, or they are, at least, exceedingly rare, and have long since made way for others, less worthy of their place. "At first, the plant in question, is not unlike H. Odorous, already figured in this work, fol. 1643, but has extremely different leaves, which are merely ternate, with numerous sharp pointed toothings, instead of being pedate."

LAVATERA MARITIMA, Sea-side Lavatera.

Bot. Reg.

NAT. ORD. MALVACER. CLASS MONADELPHIA POLYANDRIA.

A free flowering half shrubby greenhouse plant, an inhabitant of the south of France and of Spain. It was cultivated in this country by Gerardes, in 1897, but has been long lost until reintroduced by Mrs. Marryat. "Although called a Lavatera, it is, in fact, a Malva, according to the modern definition of that genus, and its name consequently altered, if it is worth while to make changes among genera so badly limited, that they must of necessity be wholly remodelled by the first monographist who undertakes their examination."

DAHLIA EXCELSA, Tree Dahlia.

[Botanist, No. 22.

NAT. ORD. COMPOSITÆ. CLASS SYNGENESIA POLYGAMIA.

This singular species of Dahlia has been cultivated for several years in the collections of this country. It may be said to be interesting, inasmuch as it stands connected with one of the most highly prized and popular flowers of the present day. We mean the Dahlia so much and so justly admired as an antumn flower. The Dahlia excelsa cannot, from its tall and coarse habit, ever become a plant generally cultivated. We subjoin the following account from the Botanist:—

"The Dahlia excelsa was first introduced into this country about the year 1830, in a manner somewhat unintentional. Messra. Loddige, of Hackney, perceiving that some thick stakes, which were used to protect a basket of plants, received by them from Mexico, showed signs of life, planted them in the open ground, where they grew to the height of ten feet in the first season, but were destroyed in the subsequent winter. The plant was again imported, both by roots and cuttings, in 1834, by William Bates, Esq. who presented it to Charles Tayleure, Esq. of Toxeth Park, near Liverpool, by whom it was liberally distributed to the Liverpool Botanic Garden and to Mr. Skirring, of Walton Nursery, near Liverpool. From the latter admirable and liberally conducted establishment, a plant two feet high was obtained by George Ellins Esq. of Rigby Hall, Worcestershire, and planted in the border of his conser-

vatory in the spring of 1837. In November of the same year it had attained the height of twelve feet, and produced a handsome corymb of flowers at the summit of the stem, in the manner represented by the largest of the two miniature outline sketches in our plate. From one of these flowers our drawing and description was made. This handsome plant, 12 feet high, is wholly devoid of side shoots, but with its magnificent foliage spreading five feet from side to side, and displaying a single crown of flowers, was highly attractive. The very handsome style of growth of this individual plant does not, however, appear to be invariable, nor, perhaps, general in the Dahlia excelsa, for we have since seen other younger plants with many branches, but still preserving a main or leading shoot in a manner wholly distinct from the garden species. This habit is represented by our smaller outline sketch. A plant now growing in the greenhouse of the Liverpool Botanic Garden, where it has been about three years, has attained the height of twenty feet, but, although a few buds have appeared, it has not perfected any flowers. In its native country it grows thirty feet high, and, if productive of numerous flowers, must indeed be an object quite worthy of the contemplation of the most zealous Dahlia fanciers. Mr. Shepherd, of the Liverpool Botanic Garden, informs us that Mr. Bates, to whom this country is indebted for the species, possesses dried Mexican specimens of the flowers, both single and double, which were produced by the same plant, we may, therefore, conclude that it possesses a sportive character similar to that of its congener, now so well known and admired by every person, even of the most obtuse perception, in floral affairs. In the Botanic Garden, No. 166, being that which will appear on the same day as the number of the Botanist we are now writing, we have published the tree violet. This has much the same relation to the gay pansy viola tricolor, as the tree Dahlia has to those brilliant objects of cultivation the Dahlia variables. The observations there advanced, on hybridizing the two species of violet are equally applicable in the present instance to the the tree and garden Dahlia, since by a mixture of them, stamina may possibly be given to the weaker, or a habit of free flowering to the stronger. However uncertain may be the result, it is highly desirable that the experiment be made. To obtain this gigantic species of Dahlia in perfection we have no doubt but preference should be given to planting it in the border of a lofty conservatory, not near any wall, but where it can enjoy the full influence of the light, and spread without obstruction from other plants. It may be easily increased from cuttings."

CRUCIANELLA STYLOSA, long-styled Crucianella.

Bot. Reg

NAT. ORD. GALIACEM. CLASS PENTANDRIA MONOGYNIA.

A beautiful hardy herbaceous plant, found by the Russians in Persia, upon rocks in the province of Ghilan; it flowers during the months of June, July, and August, and is well adapted for growing in beds, its numerous heads of bright pink blossoms being highly ornamental.

SPATHODEA PENTANDRIA, five Stamened Spathodea. [Curtis's Bot. Mag. NAT. ORD. BIGNONIACEE. CLASS DIDYNAMIA ANGIOSPERMIA.

"Seeds of this noble Bignoniaceous tree, were received from India by Mr. Murray, of the Glasgow Botanic Garden, under the name of 'Bignonia pentandrum,' a name of Loureiro, referred by Willdenow to B. Indica, a very different species from the present, which, on account of the structure of the calix, I refer to Spathodea. Indeed, I do not find it any where described, but it will probably rank next to Bignonia." "Our plant did not flower till it had attained the height of nearly twenty feet. This occurred in June, 1838."

IPOMÆA PLATENSIS, the Plata Ipomæa. [Curtis's

[Curtis's Bot. Mag.

NAT. ORD. CONVOLVULACEM. CLASS PENTANDRIA MONOGYNIA.

Seeds of this very handsome Ipomma were transmitted to the Glasgow Botanis Garden, by Mr. Tweedie, from the banks of the Plata, and has since flowered to great perfection in the stoves of that establishment.

EUTOCA WRANGELIANA, Baron Wrangel's Eutoca. [Pazton's Mag. NAT. OBD. HYDROPHYLLEZ. CLASS PENTANDEIA MONOGYNIA.

An annual of great merit, either for planting in beds in the flower garden, or in pots, to supply to decorate the greenhouse during the summer months. It was communicated to the Imperial Botanic Garden, at Petersburgh, from the Russian Colony of Ross, in New California, north west coast of North America.

"We are indebted to Messrs. Henderson, of the Edgeware Road, for the opportunity of figuring this showy species, in whose nursery our drawing was taken in the month of May last, and from whom plants or seeds may be obtained."

SOLANUM FRAGRANS, Fragrant South American Nightshade.

[Curtis's Bot. Mag. NAT. ORD. SOLANES. CLASS PENTANDRIA NONOGYNIA.

An extremely curious species, sent by Mr. Tweedie, from South Brazil, to the Glasgow Botanic Garden, where, after it had attained the height of about fourteen feet, it produced its singular racemes of changeable coloured flowers, of a very powerful and agreeable fragrance, in the month of June.

CAPSICUM USTALATUM, Burning Capsicum or True Chili.

[Puxton's Mag.

NAT. ORD. SOLANACER. CLASS PENTANDRIA MONOGYNIA.

"Seed of this very distinct and handsome species of Capsicum, were originally received by us from J. Bateman, Esq., of Knypersly, and as it is new, valuable, and by no means unornamental, we have pleasure in introducing it to more general notice by the accompanying plate."

"Used as an ingredient in pickles, this is decidedly the most valuable species with which we are acquainted, the Generic name is derived from kapto to bits, the specific name refers to the remarkably hot and burning qualities of the fruit, which when thus superadded to the Generic, implies that this species potenties those properties in an extraordinary degree."

SOLANUM VERNICATUM.

NAT. ORD. SOLANBÆ. CLASS PENTANDRIA MONOGYNIA.

Was raised from seeds introduced from Buenos Ayres, to the gardens of the Horticultural Society, by the Hon. W. F. Strangways. The flowers are small, and of no beauty.

VERONICA PROSTRATA, VAR. SATURIÆFOLIA, prostrate Speedwell, savory leaved variety. | Curtis's Bot. Mag.

NAT. OBD. SCROPHULARINER. CLASS DIANDRIA MONOGYBIA.

A hardy perennial, and worthy of cultivation, on account of the largeness of its brilliant blue flowers, which continue to bloom in succession for a great length of time. It is a native of France, Germany, Italy, and Switzerland.

CHILODIA SCUTELLARIOIDES, Soutellaria-like Chilodia.

| Paxton's Mag.

nát. ord. labiateæ. Class Didynamia Gymnospermia.

Seeds of this handsome greenhouse plant was introduced to the Royal Gardens, at Kew, in 1828, a native of the barren forests of the Nepsan fiver, in New South Wales; it is closely allied to the genus of Prostranthera and Soutellaria.

"The generic name is taken from Cheilos, a lip and odous a tooth, in allusion to the indentitation of the lower lip of the Calyx."

DAPHNE AUSTRALIS, Southern Duphne.

Edwards's Bot. Reg.

NAT. ORD. THYMELACEA. CLASS OCTANDRIA MONOGYNIA.

This species is found on the banks of the lake of Licola, near Naples; it

is remarkable for its hairy leaves, and differs from D. Collina in its leaves being more attenuated, and loose habit of growth.

PLEUROTHALLIS GROBYI, The Groby Pleurothallis. [Curtis's Bot. Mag. MAT. ORD. ORCHIDACE E. CLASS GYNANDRIA MONANDRIA.

This small orchideous plant was communicated to the Glasgow Botanical Garden, in the spring of 1838, by Mr. Gardner, who found it on the Organ Mountains, near Rio Janeiro.

VANDA TERES, Taper-leaved Vanda.

| Paxton's Mag.

NAT. ORD. ORCHIDACE. CLASS GYNANDRIA MONANDRIA.

"It may be safely asserted that orchidaceous Epiphites are the most exquisitely beautiful of all nature's productions. Rich in every shade or variety of colour; airy and fantastic, but always elegant in habit; replete beyond description, with every charm that can allure the senses or enchant the mind; they totally eclipse all the old inhabitants of our stoves, and, moreover, present in their number and variety a field of research to the botanical student and the inquiring cultivator, which, from the comparatively little knowledge of them we yet possess, is really illimitable."

"This unqualified assertion of the superior beauty of the tribe will be divested of all semblance of bombast or exaggeration when viewed in connexion with the magnificent plant represented in the annexed drawing; a plant which defies alike the arts of painting or description to convey an accurate and adequate idea of its distinguished merits."

This splendid plant flowered in the excellent collection of J. Bateman, Esq. of Knypersly Hall, where the drawing was made.

BOLBOPHYLLUM BRACTEOLATUM, Bracteolate Bolbophyllum.

Bot. Reg.

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONOGYNIA.

This curious Epiphite flowered in the collection of Messrs. Loddige, in July, 1837, by whom it was introduced from Demerara; a singular instance of that genus having been discovered out of the Old World.

PLEUROTHALLIS VITTATA.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

A species imported from Mexico, by Messrs. Loddige; the flowers are of a dall purple, "and one of the handsomest of this not handsome genus."

DIENIA CORDATA, Heart-shaped Dienia.

Bot. Reg.

NAT. ORD. ORCHIDACE &. CLASS GYNANDRIA MONANDRIA.

A Mexican species, of no beauty; from hence it was introduced by Mr. Barker. The flowers are green and small, upon a long slender spike.

TRIGONIDIACUM EGERTONIANUM.

Bot. Reg.

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONANDRIA

This very distinct species was discovered by G. U. Skinner, by the bay of Dulce, in Hinduras, by whom it was introduced to this country; it is named in compliment to Sir P. de M. Grey Egerton, Bart.

TRIGONIDIUM ACUMINATUM.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

This small and interesting species is a native of Demerara. The outside of the flowers are of a dull straw colour, and richly pencilled inside with brown. It has been discovered by Mr. Colley, and other collectors.

CIRRHOPETALUM CORNUTUM.

Bot. Reg.

NAT. ORD. ORCHIDACEA. CLASS GYNANDRIA MONANDRIA.

This remarkable species was discovered growing upon rocks, by Mr. Gib

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son, at Nungclow, on the Khosees hills, by whom it was introduced to the valuable collection at Chatsworth, where it flowered in August last.

SACCOLABIUM CALCEOLARE.

Bot. Reg.

This plant has flowered at Chatsworth, having been found by Mr. Gibson, at Chirra, on the Khoseea hills, at an elevation of 400 feet, growing on trees. It has small yellow flowers, blotched with redish brown.

POLYSTACHYA RAMULOSA.

[Bot. Reg.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA

A small green-flowered plant, imported from Sierra Leone, by Messrs. Loddiges, with whom it flowered in September, 1838. "The smooth flowers prolonged at the apex (that is to say, at the base of the sepals,) into a long cone, and the wedge-shaped naked lip distinguish this from the other species previously known."

BRYOBIUM PUBESCENS.

Bot. Reg

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONANDRIA.

An old plant in this country; a native of East India, with small green flowers. "The flowers are a line and a half or two lines in diameter, membranious, and collected in small stalked heads, very much larger than the leaves."

EPIDENDRUM DICHOTOMUM, Forked Epidendron.

Bot. Rog.

NAT. ORD. ORCHIDACE. CLASS GYNANDRIA MONANDRIA.

A species of no great beauty, found on the Organ Mountains of Brazil, by Mr. Gardener, with green flowers, and a hard wiry stem.

ERIA PUMILA.

[Bot. Reg.

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONANDRIA

A small species, communicated from the Calcutta Botanical Garden to Mesars. Loddige, with whom it has produced its small head of pinky blossoms.

CATTLEYA BICOLOR, Two-coloured Cattleya.

[Bot. Reg.

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONANDRIA.

A beautiful species of Cattleya, which has just flowered in the collection of Messrs. Loddige. The sepals and petals are of a dull olive green, and the labellum of a deep violet.

CATASETUM MILLERI, Dr. Miller's Catasetum.

Bot. Reg.

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONANDRIA.

A species, with stem about two feet high, from Brazil. Flowers of a dullish purple, "named in compliment to Dr. Miller, of her Majesty's ship Victory, a most zealous collector of rare plants."

CLEISOSTOMA ROSEA.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA

This little plant was added to the collection of Messrs. Loddige by Mr. Cumming, who sent it from Manilla. The flowers are of a pale atraw colour, with pink lip; in habit resembling sarcanthus rostratus.

AGAVE SAPONARIA, Soap Agave.

[Bot. Reg.

NAT. ORD. BROMELIACEÆ. CLASS HEXANDRIA MONOGYNIA.

A new species of Agave, found by Mr. Skinner on the Sandy Plains, in Peru, where he learned that the thick succulent tap root possessed the properties of soap, from which lather may be formed with water. The flowers are or a dingy purple, and closely allied to purple.

REVIEWS AND MISCELLANIES.

Hortus Lignosus Londonensis, or a Catalogue of all the Ligneous Plants, indignous and foreign, hardy and half-hardy, cultivated in the Gardens and Grounds in the neighbourhood of London, with all their synonymous, scientifie, and popular, including their French, German, and Italian names, and with their native country, habit, habitation in the Garden, &c. &c, to which are added the pieces of hardy trees and shrubs in the principal Nurseries of London and at Edinburgh, and at Bollwyllen, in France, and in Hamburgh. By J. C. Loudon, F.L.S., &c. &c., author of the Aboretum et Fraticetum, &c. &c. Iondon, printed for the Author, and sold by Longman, Orme, Browne, Green, and Longman, Paternoster-row.

This is a closely printed volume, of 170 pages, with double columns. The arrangement is that of Jussieue, and on the plan adopted in the Aboretum Brittanicum. In the preface Mr. Loudon says, "the following sheets comprise a part of the contents of the Arboretum et Fruticetum, and the priced lists at the end form a part of the appendix to that work. It was thought that some impressions of these sheets, done up as a thin pocket volume, might be useful to gardeners and amateurs, even although they were already in possession of the Arboretum; the bulk of that work rendering it inconvenient for use in the garden or the shrubbery. The priced catalogues, it is thought, will be extremely useful, as showing the kinds of trees and shrubs of which seeds or plants may actually be purchased in British seed shops and nurseries, and the retail prices of them." Hardy Ligneous trees and shrubs are becoming annually better known, and Arboretums are now being established in many parts of the country, and this we regard as an earnest only of what, in a few years, will be effected. Few are insensible to the pleasures derivable from the possession and culture of plants, however fugetive they may be, either in their floral beauty or in existence itself; but in the expenditure of money and time, in procuring and cultivating hardy trees and shrubs, there is an annual and increasing interest, which all are capable of enjoying, but those only in a high degree, who, by the aid of books and living specimens, make themselves acquainted with the properties and characters of some of the leading and commoner kinds; and for the attainment of this delightful acquirement. the book now before us will be found a most valuable help. To nurserymen and gardeners generally concerned in the correct nomenclature of plants, the " Lignosus Londonensis" will be found an extremely useful book.

We have great pleasure in noticing what will be a most valuable addition to half hardy border flowers. We refer to a new salvia in the possession of Measrs. Low and Co., of the Clapton Nursery. We believe it has been raised from Mexican seeds. It has recently flowered in the establishment alluded to, and will be figured in the London Horticultural Society's Transactions, with a promise from the proprietors that it shall not appear in any other periodical until some time after its publication in that work. This is a preference given to none but plants of acknowledged superiority. Salvia Patans (this is the name by which it is intended to be published) will, therefore, be a plant admired, and sought after by all who value plants for the beauty of their flowers. The flowers of this plant are of a dark blue colour, and measure an inch across the lip.

ON THE DIFFUSION OF THE SEEDS OF CRYPTOGAMIC PLANTS.—The diffusion of the seeds of this extensive order of plants being so universal, and the seeds (sporules) themselves being so minute as to elude common observation, the phenomena thence arising have like the sudden appearance of newly-hatched insects, given some colour to the doctrine of spontaneous generation. We may see this exemplified every day on brick walls, newly-

built, even if they be covered with a new coat of cement. The first indication of vegetable life on such a wall, particularly in parts exposed to the trickling down of rain water, is that of a green silky-looking substance, having somewhat the appearance of a coat of green pain. Mr. Drummond, of the Cork Botanic Garden, by accurately watching the progress of this green matter, which had been unsuccessfully investigated by Pricetly, Ingenhouz, and Ellis, and had been mistaken by Linnæus for a crop of byssi, ascertained beyond question that it always consisted of the common mosses, such as the wall screw moss (Tortula muralis) and the common hair hood moss (Polytrichium commune). At Glasgow, we have repeatedly remarked, that on the walls of houses built with freestone, raised from a quarry more than a hundred feet under the surface of the soil, the whole exterior would, in the course of one months, appear as green as if painted with those innumerable germinating mosses. The germination of mosses on walls appears to arise from the seeds (sporules) being carried into the air. This process is facilited by their extreme minuteness, and their comparative lightness, for they do not sink in water like the seeds of phenomagous plants and the eggs of insects, as appears from their germinating on the surface of stagnant water, as frequently as on walls. In low situations, the mode in which the seeds of cryptogamic plants are diffiused, is well exemplified in the puff ball (Lycoperdon) which, when ripe, explodes its sporules in the form of a smoke-like cloud. Mosses, again, which grow on trees and walls, if they do not thus explode their sporules, must drop them into the air, and as they chiefly ripen early in spring, the winds which then prevail will scatter them to considerable distances. But we only state this as a highly probable inference from Drummond's discovery. To detect these all but invisible seeds floating in the atmosphere, and trace them in their passage from the parent plant to the wall or tree where they begin to germinate we think is hardly possible. If the doctrine be sound that every plant arises from seed, we must either believe that innumerable masses are wasted to the walls through the air, or adopt the hypothesis that they have existed for centuries in the interior of the rocks of the quarry. That it is not impossible the seeds may have existed in the rocks, several curious facts would lead us to believe. Some seeds, for example, retain the power of germinating for an indefinite length of time, since the wheat usually wrapt up with Egyptian mummies, will often germinate and grow as well as if it had been gathered the preceding harvest. It also bears upon this subject, that when a piece of ground which has never been tilled is turned up by the spade or the plough, it immediately becomes covered with a crop of annuals, not one of which may grow within twenty miles of the spot, and a number of them such as hedge mustard (Sisymbrium officinale) and chickweed (Alaine media) whose seeds are not winged. It is not less worthy of re-mark that all these annuals will again disappear as soon as the grass is suffered to spread over the spot which has been dug up.—Insect Transformations.

A Correspondent in Gardeners Magazine, J. B. W., has thrown out a hint, which we think valuable to those who have the care of Orchards subject to the depredations of hares. To prevent these animals from eating off the bark he recommends covering the stems with coal tar. This, we have no doubt, would prove a safe and most effectual preventative. It might also be used with advantage on the stems and branches of older trees infested with insects of whatever kind.

Figs.—The inhabitants of Argenteul, near Paris, derive their chief support from the culture of Fig Trees, near that town are immense fields covered with these trees on the sides of hills facing the south, and in other places abeltered from the north and the north-west winds. In the Autumn the earth about the roots of these trees is stirred and dug, as soon as the frosts commences the gardeners bend down the branches and bury them to the depth of six inches with mould, which is sufficient to preserve them from being frozen, the branches must be entirely stript of their leaves, before this is done care

must be taken in bending the shoots down not to break flight; those that will not bend low enough to be buried are cut off close to the the tid. A fig tree will remain buried in this manner seventy-five or eighty distributed without harm; when the season is mild the gardeners uncover them in times of warm rains, but on the first symptoms of frost they are again buried; severe frost sometimes reaches them, but the branches only are destroyed, the roots produce a new crop in the summer, but these do not bear fruit till the next year, and are more tender and liable to be killed by frost during the next winter than older and more woody branches. In the spring the trees are carefully inspected, and where a double bud is observed, the gardeners, who are able to distinguish a leaf-bud, which is more sharp than a fruit bud, pinch out the leaf-bud without hurting the fruit buds, these, as they receive the sap prepared by the plant for two purposes, produce fruit of double the ordinary size; this is done at Paris between the first and tenth of June, but these leaf. buds may be suffered to expand a little till they can be distinguished with certainty, they must not be all destroyed at the same time. In cool seasons the ripening of the fruit is hastened by inserting a drop of oil in the eye from the point of a pen or tooth pick. It is necessary in dry seasons to water fig trees, the nature of the plant requires to have its root cool, while its head is exposed to the hottest sun. If planted against the south wall of a house near a spout that brings water from the roof, it thrives luxuriantly. Figs do well also in a paved court, the stones keep the ground under them moist and cool, while the surrounding buildings reflect and increase the heat of the sun's rays.

A small vol. price 4s., published by the Society for the Diffusion of Useful Knowledge, we would strongly recommend to those wishing to obtain an easy and familiar acquaintance with Botany.

The first mention of the Oak is that of ancient times, the "Oak of Mamre" under which Abraham sat in the heat of the day, and we find it was under the shade of this tree that Joshua renewed the covenant with the Israelites. It has ever been estremed by the Britons, and was highly venerated by the ancient Druids. In different parts of this country Oaks have long been celebrated as memorials of historical events. In an Oak at Boscobel, Charles 2nd concealed himself after the defeat at Worcester; and under a spreading Oak at Torwood, in Stirlingshire, the Scottish patriot Wallace assembled his followers, that they might free their country from the thraldom of Edward. Besides these we might mention others renowned for their venerable and gigan tic appearance as well as local interest, as the Chaucer Oak at Newbury—the Gospel Oak at Stoneleigh—the Cawthorpe Oak near Wetherby—the Skyrack Oak near Leeds—the Bull Oak at Wedgenock Park—and the Yardley Oak celebrated by our poet Cowper, &c.

Time made thee what thou wert—king of the woods, And time hath made thee what thou art—a cave For owls to roost in. Once thy spreading boughs O'erhung the champaign and the numerous flock That grazed, it stood beneath that ample cope Uncrowded, yet safe shelter'd from the storm.

On account of its strength and durability "the unwedgable and gnarled Oak" (as Shakespeare expressively terms it. Measure for Measure ii. 2.) is preferred to all other timber as the material of the wooden walls of our native isle, Hence the Oak has been styled "the shipwrigh's darling treasure." It would be difficult to enumerate all the uses of this well known tree—the saw that is used in dyeing, its bark in tanning, its gall-nuts in making ink, and it is said that its leaves support a greater number of insects than those of any other tree.—Nat. Companion.

It appears to be in contemplation to establish a Garden of about 100 acres, on Wandsworth Common, for the culture of hardy plants.



On THE CULTIVATION OF HOYAS. - In the cultivation of Hoyas, the most important consideration is the choice of a soil suitable to their nature and habits. The best I have tried for this purpose, and in which I have found them to grow particularly well, is a mixture of fresh vegetable mould and lime rubbish, in nearly equal quantities. It is not necessary that the compost should be sifted. If it be only broken fine with the spade, and the larger lumps and stones taken out, the plants will be found to root more freely in it; and, consequently, grow better than they generally do under the usual treatment in finely sifted earth. Being somewhar succulent, and producing few roots, they must be sparingly supplied with water, and but seldom shifted, more particularly if they are grown in a greenhouse or conservatory, in which they generally make little progress and flower indifferently. In order to cause the plants to produce their blossoms with the greatest perfection, the heat of the stove is indispensible. They should be trained either to the wall or to the rafters, or when small may be made to entwine round sticks in their pots. It is desirable to keep the plants partially shaded, for then the flowers attain a much larger size, and last longer than if exposed to the direction of the sun's rays.

All the sorts may be propagated with facility, either by leaves or cuttings of the branches. These should be planted in pots filled with silver sand, and placed in a frame where there is a little bottom heat. They will form roots in the course of a few weeks. If strong young plants are immediately wanted, cuttings of the branches must be immediately used, for these generally produce roots the same year in which they are struck, whereas the leaves seldom make any progress except that of rooting until the year following, except under particular circumstances. In propagating by the leaves, the shoot which is to become the future plant proceeds from the base of the footstalk, and the leaf itself subsequently perishes. When first planted, the leaf should be immersed jin the mould less than half its length.—Elliku Berry.

ON THE CULTIVATION OF FIGS ON THE BACK WALLS OF VINERIES.—In the common method of cultivating grapes under glass, it may always be observed that the vines trained to the back wall of the house, seldom yield either an abundant or well flavoured crop. This is caused from the plants being too far removed from the glass, and too much shaded by the vinea trained under the rafters. I have always considered fig trees as being better suited to the back wall in a grape house than vines, and have lately seem them succeed so well in the garden of a friend in Norfolk, that I cannot better describe the plan I recommend than by detailing the practice I thereobserved.

The house I allude to is forty-four feet long by twelve feet and a half wide, in the clear; the back wall is fourteen, and the front wall rather more than four feet high. There is no upright glass in front The vines are planted on the outside, on a border raised against the front wall, and are brought into the house under the wall plate; the flue is in front, only returning upon itself, the chimney being over the fire place, which is at one and of the house, the door being at the other end, so that there is no dip in the flue. A paved walk goes along the house near the flue, leaving a border between the pavement and the back wall. Two fig trees are planted against the back wall, one is a brown, the other a white fig, kinds which are common in Italy and in the south of France, and both bearing fruit of a short and flattened form. These trees have been planted fifteen years and entirely cover the wall. The border in which they were planted was originally made very rich, and they have grown well in it. The branches are trained to a trellis against the wall, but they are also suffered to project from the wall. The trees are pruned in the autumn, after their wood is well hardened. when it is necessary to prevent them from incumbering the house, but as the object is to get trees to the largest possible size, in which state they will produce more of the short fruit bearing shoots, they are cut but little, except it be occasionally necessary to thin them by taking out a strong limb. It

is the practice to begin forcing when the grapes break in the middle of April; the first crop of fis ripens in June, and the second crop in August. The grapes begin to ripen in September, and continue fresh until near Christmas.

Under such treatment both kinds of fruit are of great excellence. It is advisable not to train the vines entirely under the whole of the glass, but to leave a space in the centre of each light its whole length of the admission of the sun's rays: the grapes perhaps will be as much benefited by this practice as the figs. The height to which the fig trees are suffered to grow must be regulated by the consideration whether it be desirable to sacrifice part of the crop of grapes, to the increase of the produce of the figs. If the fig trees are permitted to reach the glass, the vines must be shortened in consequence; but if it be desired that the vines should bear the whole length of the rafter, it will be necessary to keep the fig trees shortened, so as not to interfere with the vines.—Joseph Sabine.

MIMOSA.

Weak with nice sense the chaste Mimosa stands. From each rude touch withdraws her timid hands. Oft as light clouds o'erpass the summer glade, Alarmed she trembles at the moving shade, And feels alive thro' all her tender form, The whisper'd murmurs of the gathering storm, Shuts her sweet eye-lids to approaching night, And hails with freshen'd charms the rising light; Veil'd with gay decency and modest pride, Slow to the mosque she moves an eastern bride: There her soft vows encreasing love record, Queen of the bright Seraglio of her lord. So sinks or rises with that changeful hour, The liquid silver in its glassy tower; So turns the needle to the pole it loves, With fine librations quivering as it moves.

Naturalists have not explained the immediate cause of the collapsing of the sensitive plant, the leaves meet and close in the night, during the sleep of the plant, or when exposed to much cold during the day-time, in the same manner as when they are affected by external violence, folding their upper surfaces together, and in part over each other like scales or tiles, so as to expose as little of the upper surface as may be to the air; but do not, indeed, collapse quite so far as when touched in the night; during their sleep they fall still farther, especially when touched on the footstalks between the stems and leaflets, which seem to be their most sensitive part. Now, as their situation, after being exposed to external violence, resembles their sleep, but with a greater degree of collapse, may it not be owing to a numbness or paralysis, consequent to too violent irritation, like the fainting of animals from pain or fatigue. During the night the upper or smoother surfaces of the leaves are appressed together; this would seem to show that the office of this surface of the leaf was to expose the fluids of the plant to the light as well as to the air. - Darwin.

The Alpycuma arguta, Fuchsia selindrica, Diplacus punccious, Pentstemen crassifolius, Salvia patans, and a species of Verbena, now in the possession of Mesers. Handasyde, nurserymen, Fisherrow, Edinburgh, are all new and interesting plants. The Salvia is the property of Messrs. Low and Co. nurserymen, Upper Clapton. The two latter especially, the Salvia are amongst the gayest and most ornamental plants that have been introduced to the collections of this country for some years.

SPERMATIC ANIMALCULES IN PLANTS.—Some years ago, Professor Unger announced his discovery of animalcules of the genus Vibrio, in what are called the anthers of a moss, belonging to the genus Sphagnum. Recently, M. Mèyen, Professor of Vegetable Anatomy at Berlin, has met with the

same phenomenon in the so-called anthers of Chara, Marchantia polymorpha, and Hypnum argenteum. He describes the animalcules as contained singly in the interior of the mucilaginous cells of those bodies. When the little animal is completely formed, the partitions between the cells disappear, and the creatures are then seen, rolled up spirally, and packed along the sides of the pollen-thread. The membrane bursts upon the application of water, when the animaloules are set free, and their large head is carried forward, curving and bending, while the slender tail remains adherent to the pollen thread. Evenfually, they become entirely-free, unroll, and swim about in the water the tail foremost. This latter is very slender, twice or thrice as long as the head, and is described as having a rapid and most curious motion. In some cases, the tail is so transparent, as to be hardly visible; but it is stained yellow by the application of iodine, which kills the animalcule, but reveals its structure. At the meeting of the Institute when these facts were mentioned, Baron Humboldt, who was present, stated that he and Mr. Miller, the Professor of Anatomy at Berlin, had witnessed the phenomenon described by Professor Meyen, and that the movements of the animalcules appeared to them analogous to those of many infusoria.

QUERIES, REMARKS, &c.

SIR,—The cultivation of roses is in its infancy in this country, I have no doubt we shall have them e'er long as many months as we we have grapes. Our ancestors would have been astonished if told that we have grapes ten, if not eleven months in the year. Mr. Willison, of Whitby, acknowledges that it is only lately he has become a cultivator, and it is evident, from his remarks on the sporting of roses. Our neighbours in France, who are much more advanced than we are in this respect, have long observed it, and taken advantage of these freaks of Dame Nature, as may be witnessed by Rose a feuiles de Laitue, Moss a feuile de Sange, Clutfeuille foliacce, &c. &c. Mrs. Gore, in her Rose Fancier's Manual, has the following passage:- "In addition to the interest excited by his seedlings, the attention of the rose-grower is eagerly directed to the accidental varieties produced by what is called "a sport," or branch losing the habit of the plant on which it grows, and assuming new specific characters." You would oblige many subscribers to your work, as well as Mr. Willison and myself, who am a great rose-fancier, and possess 309 good sorts, if you would impart any new discoveries respecting them. That Mr. W. should grow the Mossey Pompone or de Meaux, the size he names astonishes me. His mode of treatment, &c. &c. would be very valuable.

SURREYENSIS.

Your number for October has just reached me, and I beg to say, in answer to a query, from M. M. respecting the preserving of sickly orange trees, I shall be happy to show him about thirty trees, now in a very vigorous state of growth. They were sent here about five years ago, in a very unhealthy state. But in the mean time I would advise him to keep them pretty dry through the winter, and lose no time in getting boxes made of suitable size, with loose sides, to be removed at pleasure, without disturbing the roots; they should be made of well-seasoned English oak, and, as they will last many years, they ought, therefore, to be made large enough to allow for the increased size of the trees. The boxes may be rendered small by placing bricks round the inside, to be taken out as the roots of the trees require it. They should have two goods coats of pitch and tar, boiled together, inside, to preserve them from the dampness of the weather. The compost which I would recommend is as follows:--Collect a quantity of bones and chalk, or plaster of Paris, for drainage, a quantity of turf from old pasturage, the sweepings of the approaches of the park fed off by sheep, some washed sand, and a few decayed leaves, place them under cover, as, in my opinion, the season for shifting is February or early in March; it would, therefore, at that season be difficult to get them in a good condition, if left unprotected. Should you, Mr. Editor, be in London before the spring, I shall be most happy to show you, not only their heads, but the roots also.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXI.—DECEMBER, 1838.

ORIGINAL COMMUNICATIONS.

REMARKS ON THE CULTURE OF THE DAHLIA WITH A SELECT LIST OF THE NEWEST AND BEST KINDS.

BY T. H. MOORE.

When facts become generally and extensively circulated, our expectations are heightened, and we reasonably hope to find corresponding improvements as the results; but, as in the present instance, this is not always the case. The Dahlia, although extensively cultivated—indeed it may be said, to an extent unequalled by any ornamental plant at any time in any country, or under any circumstances, it is nevertheless an ackowledged fact, that its cultivation is by no means well understood with regard to the situations most favourable for the growth of the plant. Shelter and depth of soil, on a dry bottom, appear essential requisites, and often recommended, but seldom properly explained. In compliance with this recommendation, Dahlias are very frequently planted at the bottom of high walls or fences, in narrow borders under the drip of high trees or shrubs, and this too, without any reference to the quality or depth of the soil; and although they will live and produce blooms, yet in such situations it would be unreasonable to expect them to be fit for competition. As the result of my own experience on this subject, I would advise that a quarter of the kitchen garden be selected fully exposed to the sun, and having a free circulation of air on all sides, and a naturally damp but rich soil. The latter property is too often sought to be attained by the application of manure; but unless the ground be of a retentive quality, it will seldom answer well. Where manure is applied extensively,

experience has often proved to me, that unless it be well decomposed, it will be injurious rather than otherwise. The Dahlia, unlike many other plants, obtains much of its nourishment from the surface of the ground, where, if circumstances are favourable, the roots may be seen thickly matted; and hence the advantage of applying manure on the surface of the earth around the stems.

With regard to soil, and where expense is not an important consideration, I would recommend the following:-In beds, borders, or quarters in which it is intended to grow Dahlias, the whole of the soil should be removed from nine to twelve inches in depth, and its place supplied with equal parts, of good yellow loam, well decomposed manure, and about one half of peat earth. The whole should then be trenched or dug about two feet in depth, in the course of which, the different earths ought to be well mixed, and laid in ridges, and exposed to the influence of frost and rain during winter. It is, of course, supposed that this operation is performed in autumn; and by the ground remaining in this state till the following April or May, it will have become pulverized and ready to receive the plants. With regard to the compost, it ought to be mentioned that the expense of preparing the ground in the mixing of different soils and manure, is not an annual expense, but if once prepared in this way, it will, with occasional supplies of manure, continue to grow Dahlias in perfection for many years, so far at least as the soil is concerned.

Under the head of what may be termed general management, my own experience induces me to think the following remarks of importance, and shall first notice an error which is almost universal, that of keeping young plants in pots so small as to completely check their growth. I am aware this evil is one difficult to guard against, as it often occurs that the planting season, owing to unfavourable weather, is protracted, and the daily expectation of a favourable change operates on the mind of the cultivator in preventing him from shifting his plants into larger pots, so as to keep them in a healthy, vigorous, and growing state, until the return of weather suitable for planting them in the open ground. The consequence of neglecting this, will be that the plants, when committed to the open borders, after having stood for several weeks in pots so small that the roots occupy the whole of the pot, and thereby become so matted that in the operation of planting recourse must be

had to the alternative of either planting the roots with the ball entire, or breaking the ball in order to set the roots at liberty and enable them to strike out into the surrounding earth; but as this cannot be done without greatly injuring or breaking many of the roots, and under the most favourable circumstances, the plants receive a most severe check, from which they will require six weeks or two months to recover. If this evil be avoided, and the plants are committed to the earth with their roots undisturbed. and not unfrequently as hard as the pot from which they have been extracted, in either case there is no probability that the plants will exhibit appearances of vigorous growth until towards autumn; and of the two evils, I would, therefore, advise that the balls should be broken, and the roots liberated: for although this, in the first instance, will appear to give a more complete check to the plant, yet when it has recovered, it will grow much more vigorously than those that are planted with their balls entire; indeed, it is seldom that they ever succeed either in growing or flowering freely.

The next point to which I would direct the attention of the amateur, is that of propagating extensively from the same root. Where propagation only is the object to be attained, this does not require consideration; but if the object be to obtain plants for blooming the same year, it ought to be kept in mind that, when roots are taken into the hothouse and excited at an early season of the year, and made to produce a great number of shoots for cuttings, the later crops of these will seldom make much progress either in growth or in the production of flowers; and those again of the earlier crops, from the length of time they have been in a growing state, are also exhausted, and will remain throughout the summer without making any successful effort to grow. Dahlias ought not to be excited to grow before February; plants raised earlier than this will seldom bloom well. The middle of March or the first of April, is quite as early as I should advise putting Dahlias into heat and a growing state. In this state, the growing season is not prolonged so as to exhaust the energies of the plant. When once set in motion, they ought by all means to be kept growing by frequent potting and suitable warmth.

Planting, Training, &c.—There are few situations where the plants can be safely planted before the end of May or the beginning of June. In the operation of planting, the plants should be placed

in rows not less than six feet apart each way, adjusting the kinds, as to height and colour, so as to produce the best effect in an ornamental point of view; and much of this is to be effected by a judi-.. cious blending of colours and attention to the comparative heights of the several kinds. If the plants have been properly managed, they will have attained the height of eighteen inches or two feet at the time of planting out, and will, therefore, require carefully staking as soon as they are planted; in doing this, let a short stake be used. to which they should be supported. When the plants have attained two feet in height, the tops should be taken off to induce them. to produce side shoots: then let three or four longer stakes be put,_ down round the plants at about a foot from the stem, with their taps, inclining outwards: to these the side shoots must be carefully tied. and so as to keep the centre of the plant entirely open, thereby allowing a free circulation of air and light to the blooms. be necessary to use the knife rather freely during the early part of their growth, in removing all superfluous shoots, and most of the buds as soon as they appear. This is quite indispensible, otherwise the flowers will be so small as to be altogether unfit for exhibition.

I have before observed, that a damp soil is requisite to grow the Dahlia to perfection; and, it is equally necessary to supply it liberally with water in hot dry weather: in short, if the soil is not naturally damp, the plants ought to be watered from the first planting out. For this purpose, let the earth be drawn out round each plant, in the form of a basin, just allowing room enough to walk between the rows; in these basins let a quantity of rotten dung be placed round the plants, by watering on this they will be greatly benefited. All blooms intended for exhibition must be shaded, not only to protect them from the rays of the sun, but also from heavy rains, this is particularly necessary in such as are self-coloured; but it must be borne in mind, that it is the blooms alone, not the plants that require it. A shade made of coarse muslin, doubled and stretched tight on a funnel-shaped wire grame, is an economical and effectual screen; it must, of course, be supported on a stake immediately over the flower. It may be well here to mention that those kinds, such as the Marquis of Lothian, which are apt to open with hard green eyes, open much better when the disk of the bloom is bent towards the earth.

The Dahlia is very subject to the attacks of the Forgeula auricularis, or the common earwig; this destructive creature will sometimes completely destroy the whole of the blooms, unless means be taken to prevent it. The best and simplest plan is, to fill about half full with hay, a quantity of small garden pots, and invert them on the tops of the stakes; then early in the morning the pots should be examined, and the insects which have secreted themselves among the hay in the pot, should be shaken into a deep pan, greased round the top, to prevent their escape; after carefully searching the traps, and when the whole are collected, they should then be destroyed. This practice must be commenced as seen as they are planted out, and continued till the frost destroys them.

At a time when so many worthless varieties of the Dahlia are offered to the public, the following list of good flowers may be acceptable:—

Dark: Addison, Birmingham Victor, Bontishall, Suffolk Hero. King Boy, Rival Sussex, Mungo Park. Crimson: Australia, Caliope, Castalia, Knight's Victory, Sanguinea, Hero of Wakefield. White, variously edged: Blandina, Countess of Torrington, Dod's Mary, Lady Dartmouth, Prima Donna, Robert Buist, Hon. Mrs. Ashley, Miss A. A. Broadwood. Rose Crimson: Countess of Sheffield, Sir H. Fletcher, Sir I. Newton, Marquis of Lothian, Royal Standard, Hero of Navarino, Hon. Stuart Wortlev. Miss Piper, Boz. Scarlet: Glory of the West. Purple: Grant Thorburn, Eugene, Middlesex Rival, Squib's Purple Perfection Fine light Rose: Metropolitan Rose, or Hope, very superior, Lady Kinnaird. Yellow-edged-Topaz: Unique, Bowman's Premier. Duke of Devonshire. Very Dark: Richard 3rd. Bronze: Beauty of West Riding, England's Pride. Amber: Etonis. . Cream Edged: Fowler's Queen Victoria, Duchess of Sutherland. Carnation Flaked White and Rose: York and Lancaster. White and Purple: Le Carnation. Yellow and Red: Phidias. The whole of the above I have seen, so as to fully justify me in recommending them.

I intended to have extended these remarks to the modes of exhibition, form of stands, &c., but I fear I have already swelled them to too great an extent. If they are worth publication, you

will oblige me by inserting them in the November number, along with any remarks of your own on the subject, you may think fit.

I am, your obedient Servant,

T. H. Moore.

Near Guildford, Surrey, Oct. 15th, 1838.

The remarks alluded to by our Correspondent relative to exhibitions will be very acceptable, and we, therefore, hope he will take an early opportunity of favouring us with his views on this subject. It is one deserving of attention, and any suggestions or hints on the subject cannot fail to be acceptable. Exhibitions for the display of flowers, fruits, plants, and vegetables, are becoming more numerous every year, and when conducted properly, and in a right spirit, they are calculated to do much good to the science of gardening generally. The study of natural history has engaged the attention and received the commendation of the great as well as the wise and good men of all ages, and, therefore, any means presenting a reasonable hope of promoting a taste and diffusing a knowledge of this,—one of the most rational, pleasing, and instructive amusements with which an intelligent mind can be occupied—is deserving the encouragement and support of all who profess to act on the principle of benevolence, whether it be with respect to the present generation or to that of posterity. Imperfection is stamped on the best arrangements and highest attainments of human skill; there is, therefore, less to excite surprise and astonishment, when, under the cover and protection of the leveliest forms of nature, envy, hatred, jealousy, and disappointment, not unfrequently gain admittance to floral exhibitions, and, under the specious pretences of contending for or defending some injured right, they seldom fail to discharge some of their upas qualities into the arrangements of these exhibitions.—ED.]

LIST OF HARDY PLANTS SUITABLE FOR A SMALL GARDEN. BY A POOR COTTAGER.

Should you think the following communication adapted to the nature and plan of your valuable work, and in any degree interesting to your readers, its insertion will much oblige me.

A taste for the beauties of nature, and the cultivation of flowers at the present day is a pleasing indication of the improvement in the manners and pursuits of mankind. This taste seems to prevail amongst all classes of society, for even the little gardens of the humble cottager can now boast of their Dahlias, their Fuchsias and Salvias; and in the dim windows of their houses we often see exhibited Myrtles, Geraniums, and other esteemed greenhouse plants. As I belong to this class myself, it is for the benefit of such that I now write, and have been led to compile the following list of plants, with a few remarks upon them. In doing this I

have confined myself to those that are hardy, beautiful, and of easy cultivation.

Arabis alpina.—The snow white blossoms of this plant, so early in the season, gives a very pleasing effect. As it will soon overrun the limits assigned it when first planted, it requires the pruning knife to be used. May be increased by dividing the roots, by slips, or cuttings.

Crocuses.—These are recommended on account of their early flowering. They may be planted at the edge of borders, or in small patches; in either situation, if the different colours are blended together, they make a gay appearance.

Geum coccineum.—When in full flower is very gay and hand-some.

Double White Rocket.—Although this is an old plant, and at the present day not much cultivated, it is certainly deserving of more attention being paid to it, and I should be glad to see it brought into further notice.

Crown imperials.—A few sorts of these (as there are many) are desirable, as flowering early in the spring.

Tradescantia virginia.—A very pretty little plant, so named in honour of Tradescant, gardener to King Charles II.

Hepatica.—Double, red and blue, very fine, particularly the red variety.

Chrysanthemum indicum.—A few varieties of these, as they come into flower when most others go off, make a garden look gay even in winter, if the weather prove fine and mild. Propagated by parting the roots, layering, and cuttings.

Lilly of the Valley—A pretty delicate little plant, and when in a shady situation will flower freely and increase abundantly.

Wallflowers.—I am sorry that these are become so much neglected, especially the best fine double sorts, for it is very rare that I can now meet with one. Surely they are worthy of cultivation, if we consider either their beauty or fragrance.

Lillies.—White, orange, scarlet, and tiger. The three first are old well-known plants; the last is of more modern introduction, and a very beautiful variety. The little bulbs or berries which adhere to the stems, if left to fall on the ground, and covered over with a little mould, will come up in abundance the next spring,

and the third year will flower. Thus, in a few years, with little or no trouble, a large number may be propagated. They are now become very common, but not so much so as they deserve, for I think every lover of flowers should be possessed of them.

Heartsease,—I am glad to find that this charming tribe of plants is become so much an object of cultivation; and when in full bloom, the richness, variety, and delicacy of their colours is exceeded by few. As the varieties are becoming very numerous, the best plan is to make a selection of a few good ones, or to procure a packet of seeds which are mixed, and sow them, thus a cottage garden may have a fine show upon a small scale. Propagated also by cuttings, which may be inserted either under glass or in the open ground, in good soil, during any of the summer months. A shady situation appears to be most suitable.

Delphinium.—The following I would recommend as being all beautiful. Chinensis, azureum, grandiflora, and exaltatum. They may be propagated by parting the roots either in spring or autumn, or by seeds.

Potentilla.—Tormosa, atropurpurea, and Russellina. To these might be added many other good varieties, but I believe the above three are generally considered the best. The first produces seed in abundance, and if left will freely sow itself; the two latter are sparing of seed, therefore, when discovered, should be carefully gathered.

Lupinus polyphyllus.—This species produces a great many varieties, very fine. Although perfectly hardy, the old plants will sometimes die during winter, therefore a few seeds ought to be sown every year to keep up a constant succession.

Polyanthuses.—I do not here mean the first-rate prize flowers, for I am well aware that many of them are not within the reach of poor people; and if they were, perhaps there are but few that possess a knowledge of their proper mode of treatment and culture. But, notwithstanding this, there are many called common, and perhaps by some despised, that are showy good border flowers, and by a little attention being paid to the raising of seedlings, some good sorts may be obtained.

Salvia coccinea, Fuchsia virgata, and conica.—These appear to be all hardy, for I have had some of them standing in the open ground for two or three winters; but, if the weather is very severe, I

would advise covering the roots with dung. Cuttings will strike freely even in common garden soil from May till September. I generally strike a few and pot them off before winter, in case the old plants should perish.

Lobelia fulgens. -This is a very beautiful plant, but as it is generally late in flowering, it should be forwarded on a moderate hot-bed, where that convenience can be had.

Alyssum saxatile.—A beautiful spreading plant, with vivid yellow flowers. It is distinguished for its being almost continually in bloom. It is not so easily propagated as some other plants, but I have raised several by layering; cuttings I have tried, but without success.

Anemonies.—Both double and single, particularly the single, as these often succeed the best. To behold a bed of these, of different colours, with the sun shining fully upon them, is one of the most delightful sights that nature affords. I would recommend sowing some every year, and the best time for this is as soon as the seed is ripe, which will forward the plants for flowering earlier the next season. If this practice was to be more generally adopted, no doubt they would be brought into a state of greater perfection.

Should the above remarks meet the approbation of the Editor and readers of the *Floricultural Magazine*, I shall continue the subject at some future opportunity.

A POOR COTTAGER.

SUGGESTIONS ON THE USE OF NITRE AS MANURE.

BY W. R. LOWE.

In looking over No. 17 of the Floricultural Magazine, at page 102, I notice a communication from "a Young Gardener," (on the use of saltpetre, as a means of destroying the wire worm,) in which the following passage occurs;" I believe that saltpetre acts as a kind of manure, for my crops this year have a particularly fine, dark-green, and vigorous appearance." In this belief of "a Young Gardener" I for one, fully concur; and will proceed to state my reasons for so doing.

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Saltpetre, or nitre, is composed of potassa and nitric acid, in nearly equal parts; and as potassa is a compound of oxygen and metal polassium; and nitric acid of oxygen and nitrogen or azote: it follows that the ultimate components of saltpetre are oxygen, nitrogen, and potassium; of which the first mentioned decidedly predominates. Now, as oxygen is one of the chief ingredients in plant food, and nitrogen also is found in many plants, it follows, (if decomposition of the nitre takes place in the soil) that it would furnish the plants with those two gaseous ingredients; and if, on the other hand, decomposition of the nitre does not take place, I think it highly probable that it may be beneficial, (in addition to preventing the ravages of that spoiler, the wire worm) in bringing about some chemical change on the animal and vegetable matter of the soil. In Professor Brande's "Manual of Chemistry," Vol. 1, Page 401, the following paragraph occurs: "It was long ago shown by Glander, that a vault plastered over with a mixture of lime, wood-ashes, and cow's dung, soon becomes covered with efflorescent nitre, and that, after some months, the materials yield, on lixiviation, a considerable portion of that salt." Now as lime, wood-ashes, and cow's dung, are all well known as valuable manures, it certainly is probable (to say the least) that nitre would also be useful. My object in making this communication is, not so much to make known anything new, as to stimulate the readers of the Floricultural Magazine, to make experiments on the subject, and communicate their results as quickly as possible.

In a communication in No. 20, Page 172, I pointed out that plants were incapable, from their natural organization, of receiving any food more dense than liquids; and that, therefore, manures are only valuable in proportion as their nutritive parts are soluble; if, therefore, saltpetre is capable of supplying plants with any food whatever, it will be found in this respect more desirable than most other manures, since it is entirely soluble, and consequently quite admissible to the mouth of plants. The solubility of saltpetre in water is also advantageous in another point of view, because it may be dissolved in the water with which plants are sprinkled, and may, therefore, be used to stimulate them when the manures in the soil are partially expended. The practice of using water containing saltpetre for plants is, I perceive, by no means new, for since commencing this article, having accidentally consulted that

excellent work by Sir Humphrey Davy, "Elements of Agricultural Chemistry." I find at page 314, the following passage. "Sir Kenelm Digby states, that he made barley grow very luxuriantly by watering it with a very weak solution of nitre. This substance consists of one proportion of azote, six oxygen, and one of potassium; and it is not unlikely that it may furnish azote to form albumen or gluten in those plants that contain them; but the nitrous salts are too valuable for other purposes, to be used as manures." Now with respect to the value of saltpetre, certainly it is far too expensive to become generally used for Agricultural purposes; but I do not conceive that that objection would apply equally to Horticulture, as a very small portion of the nitre would be required in a large quantity of water; for Sir Humphrey goes on to state, that in experiments made by himself on grass and corn, watered twice weekly with the saline solution," when the quantity of the salt equalled one-thirtieth part of the weight of the water, the effects were injurious; but when the quantity of the salt was one three-hundredth part of the solution, the effects were different."

The first point to be decided is, whether nitre is really capable of affording plants food or not; if it is, it possesses these two qualities also to recommend it—1st. it is entirely soluble.—2nd. it has the desirable property of preventing the ravages of the wire-worm; and, I doubt not, when dissolved in the water for plants, would prove equally fatal to any insects with which it might come in contact.

It is a matter of regret with myself, that my own circumstances are such as to preclude the possibility of my instituting any experiments on the subject, with that degree of care and attention which it really deserves. I would, however, suggest to any who may think it a matter of sufficient interest to experimentalize upon, that they try the solution in various degrees of strength; suppose, for instance, the proportions are, an ounce of nitre, in one case, to two quarts of water; in another to four; and in a third to six; and, of course, it would be well to use plain water to other plants of the same age, and (in every other respect,) in the same circumstances, that the effects of the saline solution may easily be perceived.

Wolverhampton, Oct. 12, 1838.

W. R. Lows.



ON THE THINNING, FLOWERING, &c. OF VINES, WITH VARIOUS REMARKS ON THE GENUS CITRUS.

BY MR. WM. BROWN.

It is evident that the maturity and superior quality of fruit generally, is dependent in a very great degree on the condition and health of the tree, and especially the vigour and perfection of the flowers. I have this season a vine of the Frontignac kind. The plant was cut down about ten years ago to its base; it put up three shoots, each bearing for the last three years ten or twelve This season, when the fruit was set and partly swelled, I cut off every bunch and branch of the worst of the three rods, except one at the extremity, and the result has been that the grapes are no finer on the rod with one bunch, than the others are with ten or twelve. It is, therefore, pretty evident that the fineness of the fruit is much more dependent on the time of flowering than on the quantity of fruit produced. Had I taken the shoots off, previous to the top bunch flowering, I hesitate not to say my own experience would have led me to expect a very different result. we have also another instance, in Stilwell's Sweet Water, which is generally an indifferent setter. This season I believe every flower set for fruit, the vine being at the time in a healthy, vigorous condition. It seems desirable to commence thinning the bunches before the fruit is set. This is the plan I have followed, and after all the berries are very small. Stilwell's Sweet Water, like the Muscat of Alexaudria, succeeds the best when the berries thin themselves by the embryo fruit falling off immediately after the flowers are matured; and, when this is the case, I have observed that the fruit has invariably been the finest; and although thinning the berries in the branches at an early period of their growth does not always insure their attaining a larger size, it is the likeliest means I know. In the culture of the genus citrus, nothing is of more importance than that of shade from the mid-day sun during the summer months. At Merevale, we have a house appropriated for the culture of orange and lemon trees, and in the month of June of the present year, I observed the foliage assuming a very brown appearance, and some of the trees were burnt across the leaves, and many leaves burnt quite through, owing I suppose to the rays of the sun acting variously on the surface of the glass. The strongest proof I had of this was with the Passiflora racemosus, planted in



Nerum Heunder v allum 2 Brugmansia Sanguinea var Glabra 3. Penstemon venastarm

the middle of the house, (the roof is a span one, half slate and half glass). The foliage of the Passion plant, where the sun had no chance of shining, was a beautiful green, but the part exposed to the sun was greatly injured. I afterwards applied a screen or canvas shade, and since this has been applied the trees have assumed a fine healthy green; so that, however excellent the management in all other respects, nothing will compensate for the want of shade during the months of May, June, July, August, and September.

The few preceding remarks are at your service, to use in any way you may think best.

WILLIAM BROWN.

Merevale Hall, Warwickshire, Sept. 1838.

REFERENCE TO PLATE XXXIV.

WERIUM OLEANDER, VAR. ALBUM, White-flowered Common Oleander.

MAT. ORD. APOCYNER. CLASS PENTANDRIA, MONOGYNIA.

The variety of Oleander now under consideration, has been known in this country for many years, as an ornamental greenhouse shrub; but although long cultivated as such, it is seldom met with in collections. We have the fullest testimony that this genus is one of great interest, in the fact of its being generally admired by all who are lovers of plants, and that it is found in almost every collection where plants are cultivated.

A plant of this very beautiful Oleander was sent us some time ago from our friend, Mr. Smith, of the Botanical Garden, Hull, and it has recently

flowered in this garden.

The common Oleander and its varieties, are natives of the South of Europe, and are there generally cultivated in the greenhouse; but we have found plants, when accidentally left in situations exposed to severe frost, that they have escaped uninjured. An instance of this kind occurred at Bretton Hall: the winter was one of ordinary severity, and the plant survived, without even losing its foliage. A more remarkable instance of this kind was related to us by our friend, Mr. Baines, Sub Curator of the Museum, York. He says a plant of the common Nerium was left exposed on the paving etones of a cart yard, with a north aspect; it remained in that situation during the whole of the last winter, without any covering whatever, either for the pot containing the roots, or the stems, and yet on the return of warm weather, it was found to be quite alive, and but little injured. It is needless to say that the severity of the frost during the winter of 1837 8, was unprecedented for many years.

The Oleander is amongst the least difficult to propagate of greenhouse plants, and few are unaware of the fact, that a piece of a shoot, four to six inches in length, will readily strike root, by having the end placed in a vial of water, and suspended in a warm situation, even a window of a sitting room,

with a south aspect, will answer this purpose very well.

BRUGMANSIA SANGUINEA, VAR. GLABRA, Shining-leaved Brugmansia.

NAT. ORD. SOLANEM. . CLASS PENTANDRIA MONOGYNIA.

Two or three years have only elapsed since the name Brugmansia Sanguinea were sounds, when allowed to fall on the ear of an enthusiastic florist, so pleasing and full of interest, as to be altogether undescribable by any but those who have themselves felt practically its influence, and plants were readily sold at three, five, seven, and even ten guineas each. Since then, however, many other plants of equal interest and note, few of superior beauty, have passed from the stage of fashion and novelty, and had their places instantly seized by others Therefore, in again introducing the name of this genus to our floral friends, we think it incumbent on them to suspend their judgments, should they feel inclined to censure, until, at least, they are told that this variety has been pronounced by those well qualified to give an opinion, a most distinct and highly interesting variety, and deserving of general cultivation. This is the opinion of Messrs. Low and Co., of the Clifton Nursery, and Mr. M'Knab, of the Experimental Garden, Edinburgh. The plant under consideration was kindly sent us by Mr. Smith, of the Botanic Garden, Hull, by whom it was raised from Mexican seeds, and we believe, it had attained considerable size in that garden, before the other varieties began to attract much attention; (for a notice of the varieties alluded to, we beg to refer to the twelfth page of the first volume of this Magazine.) The plant from which the figure has been taken, has attained the height of eight or nine feet. It is planted in the open border of one of the greenhouses, and is now in flower for the first time with us; but we doubt not, young plants raised from the one in question, would flower much earlier, especially if reared in a pot, instead of the free soil. Being now in flower, and having also exhibited flower buds, about the same period last year, it would appear that autumn and winter are its favourite flowering seasons. The foliage is quite glabrous and shining. The whole plant is also of a much darker green; the habit is also more upright. The flowers are larger, of a much brighter scarlet. The extremity of the corolla is less reflexed than in other varieties of Sanguinea. It is readily propagated by slender shoots, when placed in a gentle bottom heat.

PENTSTEMON VENUSTUM, Charming Pentstemon.

NAT. ORD. SCROYHULABINEE. CLASS DIDYNAMIA ANGIOSPERMIA.

We are indebted to our friend, Mr. Cooper, for the opportunity of figuring this pretty herbaceous plant. The genus Penstemon, has retained its popularity beyond the ordinary period allotted to plants of a similar class; and although the species have been gradually and even rapidly multiplying for several years, and are now numerous, there is scarcely one undeserving of oultivation, and but few that are not highly ornamental. P. Murryana and P. Cobezs, are still scarce, especially the former, which is remarkable for its tendency to damp during winter, this, together with the circumstance that it seldom perfects seeds, are causes sufficient of themselves to account for its scarcity, and to render it far from probable that it will ever be plentiful.

NOTICES OF NEW PLANTS.

NUTTALLIA GRANDIFLORA, large-flowered Nuttallia. | Paxton's Mag. NAT. ORD. MALVACEE. CLASS MONADRIPHIA POLYANDRIA.

A very elegant herbaceous plant, from North America, supposed to be sufficiently hardy to endure our winters, in a sheltered situation; its flowers are large, of a deep purple, produced on slender stems, about three feet long,

continuing to flower in succession for a great length of time; it is a desirable

plant, and highly interesting, deserving general cultivation.

"The figure was taken at the nursery of Mr. Young, of Epsom, where plants may be obtained, as well as of most other London Nurserymen. The Nuttallia Grandiflora, sometimes known by the name of Diegitata, is a most lovely herbaceous plant; it has been in flower in the Sheffield Garden, for at least three months."

PAVONIA SCHRANKII, Schrank's Pavonia.

[Curtis's Bot. Mag.

NAT. ORD. MALVACER. CLASS MONADELPHIA POLYANDRIA.

A native of Brazil, introduced to the Edinburgh Botanic Garden in 1836, from the Botanic Garden at Berlin; the flowers possess a considerable degree of beauty, but as they are only expanded during the early part of the day, it is not probable that it will ever be in general cultivation. The flowers are rather large, and of a deep orange colour.

POTENTILLA FERRUGINEA, Rusty-brown flowered Cinquefoil.

Paxton's Mag.

NAT. ORD. ROSACEE. CLASS ICOSANDRIA POLOGYNIA.

"This charming little herbaceous plant, is, perhaps, unsurpassed in beauty by any of its allies, and will form a most welcome addition to the numerous delightful species hitherto known. Its fine rusty brown blossoms, which have also a slight tint of deep orange, exhibit, we believe, a Potentilla of a different colour to any other species, and on this character its specific appellation has been founded."

HOVEA MANGLESII, Captain Mangles's Hovea.

Bot. Reg.

MAT. ORD. LEGUMINOSEE & PAPILIONACEE. CLASS DIADELPHIA DECAMDRIA.

An elegant slender greenhouse shrub, with long narrow leaves and purple flowers; a native of the Swan River, introduced by Captain Mangles, whose name it bears.

MIMOSA MARGINATA, Margined Mimosa.

Bot. Reg.

NAT. ORD. LEGUMINOSE. CLASS POLYGAMIA MONECIA.

A prostrate running sbrub, said to be almost hardy when grown in a green-house; it has a very elegant appearance, from the long slender branches, and small dull purple heads of flowers.

GARDOQUIA BETONICOIDES.

Bot. Reg.

NAT. ORD. ONAGRABES. CLASS DIDYNAMIA ANGIOSPERMIA

A sweet scented greenhouse herbaceous plant, raised by Messrs. Low and Co., from Mexican seeds, received at the same time with Salvia potens; the flowers are produced at the axils of the leaves, of a fine bright purple; its flowering season is in October, which makes it a valuable addition to the collections of greenhouse plants.

MEDINILLA ERYTHROPHYLLA.

Bot. Reg.

A small round branched shrub, tound in India, by Mr. Gibson, by whom it was brought to Chatsworth, under the name of Melastomia crythrophylla.

MARLEA BEGONIFOLIA, Begonia-leaved Marlea.

Bot. Reg.

NAT. ORD. ALANGIACEÆ. CLASS SYNGENESIA MONOGAMIA.

A stove shrub, of no beauty. "Its chief interest consists in its forming an illustration of the small natural order, called Alangiacese."

MELOCACTUS DEPRESSUS, Depressed Melocactus. [Curtis's Bot. Mag. NAT. ORD. CACTEE. CLASS ICOSANDRIA MONOGYNIA.

A very curious species of Cactus, found by Mr. Gardner, in the neighbourhood of Pernambuco, by whom it was communicated to Woburn Abbey and the Glasgow Botanic Garden. "The flower is at present unknown, probably it is small and red, like what we know of other Melocacti."

GLOXINIA MAXIMA, Largest flowered Gloxinia.

Paxton's Mag.

NAT. ORD; GESNERIACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

There is a great pleasure manifested in the cultivation of flowers, and particularly the raising of new ones from foreign seeds. Sometimes, however, this is attended with great disappointment. Whereas, the hybridizing of two plants (their qualities being known to the cultivator) generally realizes what may be expected, and affords much amusement to those who bestow the trouble and attention required, in bringing the plants to maturity. It was not until of late years that such a process was attended to; it is an unlimited source for the production of new plants, and it is to be regretted that it is not more generally adopted. The plant under notice is an instance of what may be done by the cross fertilization of one species with another, but it is not confined to two species or varieties of the same genera, for two distinct genera of the same natural order will co-operate in the same way, and form a link between the two genera; this Gloxinia was raised in the nursery of Mr. Young, of Epsom, from impregnation between G. speciosa and G. candida, partaking of the colour of both, but much larger than either, and is considered sufficiently distinct from any other to warrant the application of a specific name, expressive of the size of its flowers. This plant is identical with Gloxinia Youngiana, and figured in one of the early numbers of the present vol. of the Floricultural Magazine.

IPOMÆA TYRIANTHINA.

Bot. Reg.

NAT. ORD. CONVOLVULACE. CLASS PENTANDRIA MONOGYNIA.

Seeds of this very splendid Ipomæa were obtained by George Frederick Dickson, Esq. from Mexico, by whom they were presented to the Horticultural Society, where it flowered in October last. For richness and ornament it is not to be excelled even by 1. rubro-cœrulæa, I. Horsfalliæ, or any other recently introduced Ipomæa; its flowers hang in graceful clusters, not inferior in colour to the deepest of the varieties of Petunia violaceæ.

PENTSTEMON GLANDULOSUM. Glandular Pentstemon.

Curtis's Bot. Mag.

NAT. ORD. SCROPHULARINES. CLASS DIDYNAMIA ANGIOSPERMIA.

A handsome hardy herbaceous plant, introduced to the Horticultural Society by the late Mr. Douglas, who found it at an elevation of six thousand three hundred feet above the level of the sea, on dry gravel soil on the Rocky Mountains, and on the banks of the Kooskooskee river at the base of the Blue Mountains.

GONGORA MACULATA. Spotted Gongoru.

Curtis's Bot. Mag.

NAT. ORD. ORCHIDACEE. CLASS GYNANDRIA MONANDRIA.

This species has at various times been introduced by collectors from Demerara. It differs a little from G. atro purpures both in colour and form of flower, but is considered to be closely allied to it.

CATASITUM ATRATUM. Dark flowered Catasitum.

Bot. Reg.

NAT. ORD. ORCHIDACE. CLASS GYNANDRIA MONANDRIA.

This very handsome and distinct species was imported from Brazil by Messra. Loddiges; the flowers droop and are very graceful.

SATYRIUM CANDIDUM.

Bot. Rag.

NAT. ORD. ORCHIDACEM. CLASS GYNANDRIA MONANDRIA.

A pure white terrestrial species, emitting a sweet aromatic fragrance; s native of the Cape of Good Hope, introduced by Sir John Herschel, with whom is flowered in October. HELIANTHUS MOLLIS, Soft-leaved Sunflower.

[Curtis's Bot. Mag.

NAT. ORD. COMPOSITÆ. CLASS SYNGENESIA FRUSTRANBA.

An antumn flowering herbaceous plant, from North America. It flowered for the first time in the Glasgow Botanic Garden.

HELICHRYSUM MACRAUTHUM, Large-flowered Helichrysum.

[Bot. Reg.

NAT. ORD. ASTERACEÆ OR COMPOSITEÆ. CLASS SYNGENESIA POLYGAMIA

"The Swan River Colony is the land of promise for collectors of beautiful plants. What it produces, is in part known from the species already from time to time introduced, chiefly through the exertions of Captain James Mangles, R.N., but what remain behind are far more inviting. None but a botanist, who has examined the dried specimens obtained from this favoured spot, can imagine how lovely is its flora. What numbers of species, blushing with the most delicate of flowers, or glowing in all the richness of a climate, where the sun is never clouded, still exists there unknown to any but the settler and the savage—all these will find their way to our gardens by slow degrees, if the attempts at introducing them, are confined to one or two individuals; but quickly, if those who have friends and relations in the Colony, will bestir themselves.

How well they would be repaid for their endeavours, may be learned from this beautiful everlasting flower, common in the Colony, and only seen for the first time, a few months ago, flowering in the garden of Robert Mangles, Esq., of Sunning Hill."

PAXTONIA ROSEA. Pink Paxtonia.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ § MALAXIDEÆ. CLASS GYNANDRIA MONANDRIA.

This singular orchideous plant was added to the collection of Messrs. Loddiges by Mr. Hugh Cuming, who sent it from Manilla.

There are but few persons in the present day whose talent and exertion have conferred more service to the science of botany and gardening, than the gentleman to whom the above compliment has been paid. A few years have only transpired since Chatsworth, so far as gardening was concerned, was below mediocracy, and its noble owner bestowed neither money nor patronage in advancing the art—in fact he had no taste for gardening; but now he is its best and most influential friend. To promote the objects of gardening and floriculture, large sums are now being expended, and his patronage and influence is rapidly extending itself in the higher walks of society. Thus, now, the scothing and peaceful pursuits of Floriculture present attractions which have been embraced by not a few of even those whose interest and attention could seldom be engaged, except in favour of the barbarous and exciting amusements of the race course, or some pursuit equally doubtful in its moral tendency. By our judicious and prudent friend, his Grace has been led on by gradual advances, and is now enthusiastically fond of plants. As proof of this, the largest tropical conservatory in Europe is in course of erection at his princely domain, Chatsworth, and Mr. Paxton is now enjoying a three months tour on the continent, in company with his noble employer, for the purpose of adding additional attractions to his botanical establishment at home. The example and influence of his Grace must be felt, especially in the higher circles, and who dare say that they need no improvement. The effects resulting from this influence is unquestionably due to Mr. Paxton, who is thus, no doubt, the unconcious author of an amazing amount of good.

SATYRIUM CANDIDUM.

A terrestrial Orchidaceous plant, from the Cape of Good Hope, brought to this country by Sir John Herchell, under whose care, at Hanover Terrace, Regent's Park, it flowered in October last. The flowers are pure white, and emit a delightful arromatic fragrance. In many respects, it resembles S. cuculatum, also in the possession of the latter Gentleman, and by whom it has also been flowered.

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SATYRIUM PAPILOSUM.

Is also in the collection of Sir John Herchell, the flowers are a deep clear rose colour, changing into white, and very beautifully spotted with white in the throat, and the smell is like that of sweet vernal-grass. Dr. Lindley says, I know of no Orchidaceous plant prettier than this.

SATYRIUM CARNIUM.

Has been figured in the Bot. Magazine, table 1512, and Sir John Herchell thus speaks of it; S. Carnium, I have also flowered (though very pale in colour) in garden pots of bog-earth, as in the S. Candidum. Some have come to very handsome heads, though far inferior to what they do with a very little care in South Africa, whence specimens have been obtained with 120 or more flowers on a spike.

In allusion to S. papilosum he says "it was brought over in a box of Cape soil in a growing state, and though generally exposed in London, has occasionally been brought in doors in cold nights, and since the flower stalks have become fully developed, has been entirely kept in the house, and sometimes placed near a fire."

Reference is also made by the same author to "S. chrysostachyum (a fine orange-flowered kind,) similarly imported, has grown well and gone through its course, but without throwing up a single flower stalk. It is now dormant, but the new tubers are satisfactorily formed, and promise well for next year."

REVIEWS AND MISCELLANIES.

In Part 18 of the "Orchard," by Charles McIntosh, we are informed, in reference to the Apple, or Pyrus Malus of Botanists, that it is a mere conjecture to suppose that it was not known in Britain prior to the Roman Inva sion, and that it was introduced by that people. At what period this most excellent fruit was first made available in administering to the wants of man, is involved in the obscurity of antiquity. The mild crab being the only fruit of the kind indigenous to this country, or indeed to any other, is therefore and very justly, the imputed original parent of this widely different and very numerous family. Wine was made in this country during the third century, but ro mention is made of the Apple; and it is not supposed that until the Norman Conquest, that Apples were much known and cultivated in England. Scor ster that date, it is supposed that they were brought from the fertile Orchards of Normandy. It has been stated by Evelyn, that one Herris, a fruiterer to Henry the Eighth, introduced the fruits from Flanders, and planted them in Kent, no doubt giving origin to the Orchards of that country, which has been so long proverbial for their antiquity, and not less for their fertility. During the reign of Charles the Second, Lord Scudamore, who was Ambassador at the Court of Paris, is said to have sent once many of the Cider Apples to Hereford, his Lordship having selected them in Normandy and France. Haller is said to have asserted as his opinion, that in his time, there were Apple trees in the Hereford Orchards, upwards of one thousand years old, and then productive; but the late Thomas Andrew Knight, Esq., an excellent vegetable physiologist, and to whose opinion great respect is due; considers the longevity of the Apple to seldom exceed two hundred years. Mr. McIntosh thinks the Pear to be capable of attaining an age of five hundred years and upwards. It is observed, with reference to the Apple, that it is not generally known in this country, that the refuse of the Orchard and fruit room, when past all other use, may be manufactured by the ordinary processes of fermentation and distillation, into an excellent brandy, and that a very great portion of the brandy of France is made from this fruit.

Of varieties, Parkinson, in 1629, enumerates fifty-seven sorts, while the fruit Catalogue of the London Horticultural Society, contains one thousand

four hundred kinds; but three fourths of these are unworthy of cultivation.

The part of the "Orchard" now before us, contains a list of one hundred

and thirty-six kinds, very fully and clearly described.

To show the manner in which this part of the work is managed, we shall copy the description of the Hawthornden, one of the most valuable, as well as best known Apple in cultivation. "Hawthornden (signifies white apple or white Hawthorden) originated at Hawthorden, near Edinburgh; size above medium; form broadest at the base, slightly tapering towards the crown; colour white, or very pale greenish yellow, often beautifully tinged with carmine on the side next the sun; this latter circumstance has led some to suppose that there were two varieties of this excellent Apple; stalk slender, excellent; duration from September to January; habit healthy, but not luxuriant in growth; an extraordinary great and certain bearer, coming into fruit the second year from the graft; merits, one of the best of all our kitchen fruits, and should be placed in every garden, however small.

The different modes of propagation is also minutely detailed, namely, by

seeds, layers, cuttings, budding, grafting, or suckers.

On raising new varieties from seed, we find the following remarks; crossimpregnation, as a means of obtaining new varieties, is highly curious, and is described by Mr. Lindley, as follows. "Pollen, (the male dust) consists of extremely minute hollow balls, or bodies; their cavity is filled with fluid, in which swim particles of a figure, varying from spherical to oblong, and having apparently spontaneous motion. The stigma (the female organ) is composed of a tissue, the intercellular passages of which have a greater diameter than the moving particles of the pollen. When a grain of pollen comes in contact with stigma, it bursts, and discharges its contents among the tissue, upon which it has fallen. The moving particles descend through the tissue of the styll, until one, or sometimes more of them, finds its way by routes specially destined by nature for this service, into a little opening in the integuments of the ovolum, or young seed; once deposited there, the particle swells, increases gradually in size, separates into radiels and cotyledons, and finally becomes the embryo, that part which is to give birth when the seed is sown, to a new individual. Such being the mode in which the pollen influences the stigma, and subsequently the seed, a practical consequence of great importance necessarily follows, viz—"that in all cases of crop fer; tilization, the new variety will take chiefly its polinefarious, or male parent, and that at the same time it will acquire some of the constitutional peculiarities of its mother's."

Under the head grafting, it is said, this art was well known at the time of the Christian era. And in Italy, it is observed by Pliny "there are Apples that have enobled the countries from whence they came, and many have immortalized their first founders and inventors. Our best Apples will honour the first grafters for ever, such as took their names from Martius, Ceatius, Munilus, and Claudius." It is thought that the correct theory of the art, was not, however, known to these great men; but it is not improbable that many of the petty deceptions practised in many parts of the Continent, were in full vogue, even in the days of the Claudius. This supposition is in some degree confirmed by the following remarks of the author, he (Pliny). I have seen near Thulie, in the country of the Tibustines, a tree grafted and laden with all manner of fruits; one bough bearing nuts, and another berries; here hung grapes, there figs; in one part you might see pears; in another pomegranates; and to conclude, there is no kind of Apple or other fruit but was there to be found; but this tree did not live long."

So little was known of the art of grafting, that the immortal Bacon is said to have mentioned in his writings, that in his time, Apples were grafted on Colewort Stocks, but afterwards recommends that the operation should be performed on a drver Stock.

The deception alluded to above, is one not generally practised in this country; specimens of the art are, however, occasionally purchased by the curious, and brought to this country from France, Germany, and other parts of the Continent:

The anemaly referred to, is prepared something in the following manner; an orange Apple, or indeed any kind of tree whatever, having a few lateral branches growing pretty low on the main stem; the latter is cut entirely off. A Carpenter's auger, or other instrument is applied, and made to pass down the centre of the trunk, until it reach a little below the surface of the soil; a lateral incision is then made to communicate with the orafice in the centre, and the slender stems of various shrubs or trees are drawn through the centre of this hollow stem, the roots of the different kinds being made to enter the earth immediately under the surface. Thus the stems are concealed by the principal stem or stock surrounding them, while the roots of the several kinds secure nourishment in the earth, for the support of the branches and foliage. In the course of two or three years, the branches become so enlarged, as to swell and completely cover the cut part of the principle stem, exhibiting all the usual indications of ordinary grafting.

We have much pleasure in being able to inform the subscribers to the Fluricultural Magazine, that the No. for January will contain an excellent figure and description of Salvia patens, noticed in the two preceding numbers. A drawing and specimen of this, the most splendid acquisition that has been made to half-hardy border flowers for years, have been sent us by our most excellent correspondent, W. R. We shall not anticipate our own nor the remarks of our friend kindly promised us, by this notice, further than to merely speak a word in behalf of the genus, (Salvia) to which there are but few equal it, and still fewer that exceed it in beauty; nor is this the only excellence in its character. Its applicability to the filling of beds, baskets, &c. in the flower garden, is not surpassed by any other of the numerous genera of free flowering plants now in cultivation; and our present purpose is designed to draw the attention of those interested in this department of gardening not only to Salvia patens, but to the genus generally, as one presenting many peculiarly high claims for the purpose.

FERTILIZATION.—Great progress has been made within the last few years towards attaining an accurate knowledge of the process by which the fertility of the seed is secured. It had been long ascertained that the action of the pollen was somehow essential to this purpose, and that the effect was also produced through the intervention of the stigma; but the manner in which it took place was not understood. Even the ancients had obtained some vague notions on the subject, although their speculations regarding this, as well as most other minute details in natural science, were replete with error and absurdity. The general fact had forced itself upon their attention in the cultivation of the date palm. As the blossoms of this tree are diacious, the distinction between those individuals which continued barren, and such as always bore fruit was of course soon remarked; and it was found to be necessary that either some of the barren kinds should be cultivated in the neighbourhood of those which bare fruit, or else that branches of their flowers should be suspended near them, otherwise the fruit never attained perfection. Hence originated the custom of cultivating only fertile plants, and of annually bringing branches of the sterile flowers from the wild trees-a practice which has prevailed from the earliest periods of history to the present day in Egypt, and those countries of the East where the date forms a most important article of human food. When the French were in Egypt in 1800, the events of the war prevented the inhabitants from procuring the blossoms of the sterile or wall plant (as it is considered) from the deserts, and none of the cultivated plants in consequence bore any fruit .- Cabinet Cyclopædia.

The annual occurrence of the fall of the leaf has excited the attention of all vegetable physiologists without hitherto having received satisfactory explanation. Dr. Smith has classed this phenomenon amongst the diseases of plants, and compares it to the casting off of worn out and distempered parts



of the animal body. Vrolick's opinion, as we learn from Willedenow, was the same, and by that author we are also informed of the various hypotheses of different writers on this difficult subject, with which the young physiologist in the science of vegetation should make himself acquainted. I hope I shall not be deemed presumptous in offering an opinion upon the autumnal dronping of the leaves, distinct from any which I believe has yet appeared before the public. Instead of considering the fall of the leaf as the effect of disease, may it not be esteemed the result of a natural process? May we not suppose leaves to be the parents of the young buds which are found proceeding from their bosoms, by which their juices are absorbed, and which perish only when their offspring have attained their full period of growth ? A circumstance so similar to the formation and re-production of bulbs as to afford strong analogical evidence of its probability, and which is further corroborated by its resemblance to the decay of the fructification of a flower at the maturity of its seminal progeny, and in the re-production of bulbs, we see the newly formed bulbs so dependant for their growth on the leaf of the preceding year as frequently to perish if that be cut away. The circumstance mentioned by Dr. Smith of the proof of success afforded by newly planted trees, in their leaves being easily detached from the stem, adds strength to this hypotheses. If at the time a tree or shrub is removed, the buds annually produced are wholly or nearly formed, they no longer stand in need of that support which, during their time of growth, they derive from the juices of the parent leaves, and in a short time the old leaves will drop off, as would have happened had the plant continued undisturbed; but should the tree be removed during the infant state of the newly-formed buds, the leaves having lost their usual supply of nutriment from the earth through the root, do not retain sufficient vigour to perform their natural function of nurturing the embryos to which they have given birth, and instead of their wonted process of gradual decline as their infant progeny gradually increased in growth, they become diseased from want of sustenance, and wither prematurely upon the tree. And should the viviparous offspring continue to live, it will derive a precarious existence from other parts of the plant, the buds will be feeble and ill-formed, and will require a few successive generations of renewal, with the leaves unmolested, before they recover a state of vigorous growth.—Sketches of the Physiology of Vegetable Life.

A friend recently informed us, that he had succeeded in preserving many of his tender plants during the rigour of last winter, by keeping them covered with snow. This simple practice might be adopted with excellent effect, during winters such as that of 1837 8. But in a changeable climate, like that of Great Britain, it cannot be practised with safety; the severest frosts often prevail, without any snow being on the ground.

The common Holly (Ilex aquifolium) has long been esteemed for its great beauty, "glittering," as Evelyn observes, "with its armed and varnished leaves, and blushing with its natural coral." This and other evergreens have for ages been used to decorate and enliven our houses and churches during the dreary season between Christmas and Candlemas. The lower leaves of this plant are very strougly armed with spines, while the upper ones are entire, terminated with a single prickle. This difference in the foliage has been pleasingly noticed by our poet, Southey. The uses of prickles in shrubs are thus enumerated by the excellent John Ray:—" To secure them from the browing of beasts, as also to shelter others that grow under them. Moreover, they are hereby rendered useful to man, as if designed by Nature to make both quick and dead hedges." The uses which Pliny notes, are, "Lest the greedy quadruped should browse upon them, the hand wantonly sieze them, the careless footstep tread upon them, or the perching bird break them." Nat. History 22, 6. The benevolent Grahame adds another great use of thorny shrubs, which these naturalists have omitted, it is this, they protect the smaller birds from the attacks of their stronger neighbours.

The changing Rose Hibiscus (Hibiscus variabilis) received its name on account of the remarkable and periodical variations which the colours of the flowers present. White in the morning, they become more or less red or carnation colour during the middle of the day, and terminate in a deep rose colour when the sun is set. This fact has long been known. The following observation may assist to discover the cause of it. Mr. Ramond, the Director of the Botanic Garden at Havannah, remarked that on the 19th of October, 1828, this flower remained white all day, and did not commence to redden till the next day towards noon. On consulting the meteorological tables, he found that on that very day the temperature did not rise above 67 degrees fahrenheit, while ordinarily it was at least 86 degrees at the period of inflerescence of this plant. It would appear, then, that the temperature holds a place of some importance in the coloration of certain plants.

The Loasa aurantiaca, as a climber during autumn, is one of the most ornamental plants we know. It is now, Nov. 26th, in the most profuse bloom, in one of the greenhouses here, nor does it appear to lose any of that vigour and freshness so strikingly marked by the generality of plants, when in bloom, at a season more congenial to vegetation than the present. It is planted in the open border, and this, of course, adds to the tendency to grow and flower with greater luxuriance, and also to produce its flowers later in the season, than were it subject to ordinary pot culture.

"In ages of simplicity, when every man was the usual dispenser of good or bad benefit, or injury to his own household, or his cattle-ere the veterinary art was known, or the drugs of other regions introduced, necessity looked up to the products of its own climate, and the real and fanciful virtues of them were called to the trial, and manifest the reasonableness of bestowing upon plants and herbs such names as might immediately indicate their several uses. Modern science may wrap up the meaning of its epithets in Greek and Latin terms, but in very many cases they are mere translations of these despised old vulgar names. What pleasure it must have afforded the poor sufferer in body and limb, when he knew that his good neighbour who came to bathe his wounds, or assuage his inward torments, brought with him such things as all-heal, bruise-wort, gont-word, and fever-few, (fugio) and twenty other such comfortable mitigators of his afflictions. And then the good old herbalist of old professed to have plants which were all good, they could assuage anger by their loose strife, and they had honesty, true-love, and heart's ease. The cayennes, the soys, the ketchups, and extra tropical condiments of these days were not required when the next thicket would produce poor-man's-pepper, sauce-alone, and hedge mustard, and the woods and wilds around when they yielded such delicate viands as fat hen, lamb's quarters, way-bread, butter and eggs, with codlins and cream, afforded no despicable bill of fare. No one ever yet thought of accusing old simplers of the vice of avarice, or love of lucre, yet their thrift is always to be seen, we have their humble penny-wort, herb-two-pence, money wort, silver weed, and gold. We may smile perhaps at the cognomens, or the commemorations of friendship, or of worth recorded by the old simplers at their herbs, Bennet, Robert, Christopher, Gerrard, or Basil, but the names so bestowed by modern science, read better or sound better, it has Lightfootia, Lapeyrousia, Hedwigia, Schkurhia, and Sheuchzena. and surely we may admit, in common benevolence, such partialities as good King Henry, sweet William, sweet-Marjory, sweet-Ciceley. Mary-gold and Rose. The names of modern science waver daily, names undergo an annual change, fade with the leaf and give place to others, but the ancient terms, which some may ridicule, have remained for centuries, and will yet remain till nature is swallowed up by art."-Nat. Poet Companion, page 68.

Seeds often become entangied with the hair and wool of animals, and may thus be carried by them to considerable distances from the spot where they grew, but more especially such as are furnished with hard pericarps or bony coverings to the kernel, (as in stone fruits) are capable of resisting the digestive

powers of the stomach, and are thus conveyed by birds from one region to another, in a state fitted for germination. But men is most instrumental in the dispersion of different kinds of plants. The seeds of some he has carried intentionally from one quarter of the globe to the other, and others have been accidentally transported by him in a thousand ways, and follow his footsteps wherever he has penetrated.

The Yew Taxus communis, so much celebrated in ancient times for its military, as well as superstitions uses, was planted in Church yards, either to supply the parishioners with bows, or to protect the Church from storms. In every nation it is considered the emblem of mourning; its branches were carried in funeral processions by the friends of the deceased, the Yew has thus partly acquired an almost sacred character.

When the rude natives of our polished land, Form'd the strong phalanx of their valient band; With dextrous hand, the bended bow they drew, And shaped their arrows from the dusty Yew. Long the brave warriors fought with Cæser's host, And stood the bulwark of their native coast.

The Autumn Crocus (Colchicum autumnale) seems to reverse the accuse tomed order of the seasons, it mingles its fruits with the flowers of Spring, and its flowers with the fruits of Autumn. Its blossom rises out of the ground in the most forlorn condition imaginable, without a sheath, a fence, a calyx, or even a leaf to protect, under all the disadvantages of the declining season of the year. But when we come to look more closely into the structure of the plant, we find that nature has gone out of her course to provide for its security, and make up for all its defects, for the seed vessel, which in other plants, is situated within the cup of the flower, or just beneath it in this plant, lies under ground, within the bulb, the tube of the flower extends down to the root. The gem grows up in the spring, upon a footstalk, accompanied with leaves, the seeds have thus the benefit of the Summer, and are sown upon the surface of the ground, for the plant produces its flowers in September, and its leaves and fruits in the Spring following.

LONGEVITY OF TREES .- When we consider each separate plant as an individual being, there is a manifest and important distinction between the mode in which its life is maintained, and that in which it is continued in any animal. The plant annually renews all the different organs by which its various functions are carried on, and which are consequently as vigourously performed in the oldest tree as well as the youngest. But although the organs which every animal possesses, are continually undergoing a certain degree of repair, yet they are gradually wearing out, or ultimately become choaked up in old age, and thus a definite period is naturally allotted to the existence of the individual from this cause alone. But the period of life to which plants attain is no ways dependant on those conditions, but is regulated by a combination of external causes and internal influences of a very different kind. Those trees are most likely to endure the longest which grow the slowest, and which attain the least height in proportion to the diameter of their trunks, and the antiquity of some trees of this description appears to be prodigiously great.

DEAR SIR,—I shall now endeavour to fulfil my promise of giving you a few particulars of a gardening excursion I made lately in the neighbourhood of Macclesfield, in Chesbire. My principal object in visiting that neighbourhood, was to see the collections of orchidea at the seats of T. Brocklehurst, Esq., close to Macclesfield, and H. Bateman, Esq., Knypersley Hall. I found Mr. Don, (the gardener at Knypersley), a very intelligent man, and a most successful cultivator of that interesting and singularly beautiful family of plants. His specimens were both very healthy and generally speaking of an extraordinary magnitude. One peculiarity in the oulture deserves notice:

the pots in which they were growing had not only the usual holes at the bottom for draining off the superfluous moisture, but had also holes all round the side, and that pretty numerous. Mr. Don stated the object to be periect drainings, and also the admission of the warm moist air of the houses to the roots-whatever was the object the method appeared to be very successful.

Unfortunately it rained all the time I was there, so that I cannot give any account of the garden generally, or its management. The situation of Knypersley Hall, appears to be happily chosen in the midst of a fine undulating country, with the hills of Cheshire and Derbyshire, in the distance. The

following orchidem were beautifully in flower.

Leila parana. Celogine Wallichii. -fimbriata Masdevera infractum. Gongora, new species. Dendrobium moniliforme. - new species.

Miltonia candida. Sacchabalium papilium. Epidendrum fragrans. Oncidiam papilio. Trigonidium obtusum. Zygopetalum rostratum. Loddigesia secunda.

T. Brocklehurst, Esq., has a good collection of orchiden, and some very good specimens, considering that it is only eighteen months since the collection commenced. As the gardener Mr. Turner, (a pupil of Mr. Don's, at Knypersley Hall), informed me, the house appropriated to the orchidese, . has been very lately considerably enlarged, and certainly is now what one would say a large one for the purpose, yet it is pretty well filled, and as the plants grow, will not by any means be too spacious.

Mr. Turner is about to renovate the stove and greenhouse plants, vines, &c., which will improve the place considerably. The following orchiden

were in flower here.

Calanthe densifiora.

Stanhopea grandiflora. Epidendrum fragrans. -unibellatum. Oncidium ciliatum. - reniforme. – crispum, very fine.

Catesctum, new species. Cattleya Loddigesii. monacanthes, sps. Fernandsia acula. Rodriguezia secunda.

That very rare Orchideus' plant Schomburgckia crispum or Spread Eagle, has put up a flowering stem at this place, probably the first in the country.

l visited also Aldersley, the seat of Sir John Stanley; a fine situation in a beautiful country. I found here a good collection of Camellias and Geraniums; the gardens are not in the best cultivation, they are capable of being made at a moderate expense, exceedingly interesting. From thence to Thornycroft Hall. (Rev. J. Thornycroft), through a thickly wooded district. This is a fine place, well worth seeing. It was here I expected to find some good pines and grapes, and I was not disappointed, especially the latter. They certainly equalled if not surpassed any I ever saw. I wished particularly to ascertain the condition of the border, as to drainage and material, as I am about to make a new vine border here. The gardener Mr. Povey, informed me that it had been a long time, probably thirty or forty years. examined the border. It was deep and upon a sandy bottom. hothouses stand on an elevation, and the border is consequently high and dry, which accounts for the health of the vines in a great measure, though they are so old. Mr. P., covers the border every season with dung, both to keep out the frost, and to enrich it.

I visited also a beautiful little place, Mr. Barnetts, near Macclesfield, who did me the kindness of driving me over the different places, and introducin me to the gardens; a kindness for which I trust I shall always be grateful. Mr. Barnetts has a pretty greenhouse in which are some good plants in excellent health.

If you think the above few observations worth a place in your interesting periodical, they are at your service, and I remain, yours, truly,

Sheafhouse Gardens, Sheffield, Nov. 1st, 1838.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXII.—JANUARY, 1839.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE AND PROPAGATION OF RUSSELIA JUNCEA.

BY J. MC. EVOY.

Your Correspondent "Pelargonium" promised in the December number of the Floricultural Magazine, to communicate some remarks on Russellia Juncea, and other species, which he has not complied with, although one of your fair readers, Elizabeth Smith, in the Feruary number, hopes Pelargonium will keep his promise of instruction. I am surprised at Pelargonium's want of attention. Will you permit me to inform your fair reader of our method of cultivating this charming plant? It is as follows:—

Russelia Juncea is a beautiful and free-flowering plant, thriving in equal parts of light loam, leaf mould, and sand. It loves to be kept rather moist, and frequently syringed. If after growing a few weeks it were suffered to dry for a few days in a cool situation, again plunged in a gentle bottom heat, and in a temperature of from 65 to 70 degrees, watered with liquid manure and syringed gently over head, it would grow to treble the size in one season that it would by common culture. It does not flower freely whilst the plants are small, so that every means should be taken to excite a rapid growth. When the plants are of a good size, they should be placed in the full sunshine, to ripen the wood, as it is quite essential to the free-flowering of Russelia. We have plants here strung from the roof of the hothouse in green-painted wieker baskets, enveloped in moss, which shows the pen-

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dulous habits of the plant with good effect. It propagates from by cuttings of the young wood, in sand, under a bell glass; or, what I find to be a more expeditious way, namely, to plunge the pot in a bark bed, and by spreading a little rotten tan round the plant, and laying the stems all over the surface, with a piece of lime stone or pebble on every other joint, roots will have been formed in the course of a fortnight, and the plants may then be potted into No. 60 pots, in a soil containing rather more sand than for older plants, and then plunged in the bark bed or hot-bed frame.

One plant of Russelia, before it commenced growing this spring, was two feet high. It is now fully eleven feet high, with several stems furnished from the pot upwards, with its numerous rush-like branches, at every joint of which three or four buds of its splendid scarlet-tubed flowers are in a forward state for blooming. It flowered with us partially all this summer and autumn, but it promises to be a specimen of matchless beauty next spring and summer. We have several plants little more than twelve months old, some of which are six feet high. Indeed a gentleman who has lately seen our large specimen, and who I believe to be an excellent judge, says he knows of no plant in the neighbourhood of London to equal it.

JOHN Mc. EVOY.

Leweston House Gardens, Sherborne, Dorset, November 16th, 1838.

There are but few persons whose attention is at all directed to the culture and possession of new and interesting plants, but are in some degree aware of the high claims which this beautiful and most graceful plant has upon their notice. We doubt not but it might be treated success. fully in the way described by our correspondent, namely, by tying the roots in moss, and suspending the plants from the roof of the stove. Treated in this manner, the plants will require constant attendance in watering, but if properly managed in this respect, they are almost certain to succeed, and cannot fail to be highly interesting. In one of the hothouses of the London Horticultural Society's Garden, we observed a plant of this species suspended from the roof of a house; the pot in which it was growing was upright and full of earth, but the plant itself vigorous and healthy was drawn through a hole at the bottom of the pot. It had become very large, and the long pendulous, threadlike, leafless branches, presented a highly curious but most graceful appearance. An hybride obtained from this species, by means of fertilizing the stigma with the pollen of some of its nearly allied congeners, or vice versa, by applying the pollen of Russellia to the stigma of

any other species to which it is botanically related, would be productive of results highly important, in bringing into existence varietics which as such must necessary be distinct. We think this, probably, from the circumstance of Russelia being so dissimilar in habit to that of many others to which it is nearly allied, and with which it would readily mix].—ED.

REMARKS ON THE DAHLIA. BY J. H. MOORE.

In continuing my remarks on the Dahlia, I will first mention a circumstance of importance in the winter management of the roots; it often happens, that these are hurriedly taken up in the antumn, on the first appearance of frost, without, perhaps, a knowledge that they would keep in a better state of preservation, if allowed to remain till the end of October, or later, should the weather prove favourable; it is necessary, however, to cover the stem, and some distance around, six or eight inches, deep with earth, to preserve the *crown* from early frosts.

In the early part of the season, Dahlias are liable to be attacked by a species of insect, or fly, which causes the shoots to turn blind: the best remedy is to examine the plants carefully from time to time; and frequently to syringe the plants, and whilst wet, to dust a portion of black sulphur in the hearts. I have often found this effectual. In the list of Dahlias given in the last number, I unintentionally omitted: Recovery, scarlet; King Harold, bilac shaded.

I now proceed to the subject of Horticultural Societies and Exhibitions, and I trust that your readers will allow my remarks an impartial investigation. I should be happy to know the sentiments of others on the subject; through the medium of the Floricultural Magazine. An Horticultural Society, properly so called, is a body of men, composed of practical gardeners, amateurs, and patrons, or friends of horticulture*; whose object is, the advancement of that science, in every sense of the word. The benefits arising from such Institutions, when conducted in a right manner, have, I believe, never been called in question, or, if they

To avoid misanderstanding and repetition, I observe that the term "Horticulture," as used throughout this paper, is intended to express that science conjointly with its twin born sister Floriculture.



have, one might refer to the friendly intercourse they hold forth to gardeners, and the prospect of promoting a taste for, and diffusing a more extensive knowledge of, the study of the works of nature, as instances, which the most sceptical dare not pass by nnheeded. Before I proceed to the essentials of an Horticultural Society, I may be allowed to notice, briefly, the ridiculous manner in which many country Societies are conducted; it is as follows :-The Committee for the ensuing year are chosen over the dinner table, on the day of the current year's exhibition, and this, without any discrimination as to capability: this Committee meet some time during the next summer, to arrange, and fix, the day on which the snow is to take place, and on the day of show, they meet again, at the dinner table, to elect others, to undertake the important office. Now, this may be all very well; but it is widely different from my view on the subject. I conceive that all Horticultural Societies, however small they may be, ought to hold (at least) Monthly Meetings, independent of exhibitions; at which. the members (generally, and gardeners especially, should be invited and requested to bring forward communications or interesting subjects, as well as topics for discussion, according as the season might render most useful. Many too, might have opportunity of experimentalizing to some extent, in which case, the details brought before the Society at such meetings, would be of benefit to the community at large, and would advance the cause which all profess to have at heart, in an infinitely greater degree than an annual exhibition could do, however well it might be conducted; at the same time, it would excite a spirit of exertion and emulation amongst those gardeners, who, from their situation in life, have not an opportunity of displaying the talent they possess; and would give an higher tone to those mental powers, which but for a stimulant, would have been lost in obscurity. There are few gardeners of any intelligence, who join in the ridiculous assertion, that such a system, (that is, of communication and discussion,)*

• In this we quite agree with our Correspondent. At the present day it may be supposed that few will attempt to bring forward such an argument as that of making gardening too cheap, by divesting its scientific operations of mystery and superstitious formality. The amateur can never arrive at high attainments of practical skill, his mind being necessarily engaged in the varied pursuits of ordinary life. Not so with the professional horticulturist and florist, his time, his daily occupation, his attention, and the whole energies of his mind, are directed to his profession; with these advantages he ought to

would render the art of gardening common; on the contrary, it is called for, by the advanced state of Society, and by exciting more and more the interest and attention of the public, with a taste for gardening will, if possible, become more extended, and of course, the interest of gardening will advance with it. There will always be sufficient left, which can be attained by nothing short of personal application and experience, to distinguish the profession of gardening. The transactions of these meetings should be published under the superintendance of the Committee, and a copy distributed to each member, gratis, and to all others, at a reasonable charge.

Another evil in the management of small Societies, exists in that of having only an annual exhibition. Instead of holding (as they ought) two or three minor ones, to allow the exhibitors to produce their articles in their proper seasons, all is thrown into one. in order to attempt at greatness. Now, it so happens, that in the exhibitions of such Societies, Dahlias form the principal and most attractive feature,-but it often happens that such exhibitions when the time arrives, are so late, that a majority of flowers, fruits. and greenhouse plants, are out of season; this gives a decided superiority to those gardeners who hold the most extensive places. and they are thereby enabled to outdo the industrious but humble gardener, in consequence of having more extended means at their command, which, of course, they can employ to bring forward or retard their plants, just as they may deem it necessary. It is such arrangements that gives rise to the superiority of the great, and it is owing to this, that much of the envy, jealousy, aud disappointment is felt; and from this simple source arise those evils, with all their consequent results, diffusing their injurious effects throughout all the arrangements of the Society. Now, instead of this attempt at grandeur, at the expense of all that is desirable in such Societies; why cannot they hold two or three minor exhibitions? for instance, one in May, for greenhouse plants, another early in August, which might include flowers, plants, fruits, and vegetables, and another in September, for Dahlias and other cut flowers.

possess a familiar and practical acquaintance with the art, such as no casual observer can possibly attain to. With moderate application, no one need therefore fear, but rather rejoice at every advance that is made in rendering the practical operations of gardening both interesting and attractive.—ED.

The well being of Societies, whether large or small, depends on their having well digested rules and regulations, and a Committee of PRACTICAL GARDENERS, to conduct the business of the Society. The members of Committee should be requested to serve as long as convenient: they should be chosen at one of the Monthly Meetings, any member being at liberty to propose whom he thinks proper; in case more are proposed than is required, the necessary number to be elected by votes.

It would be inconsistent here, as well as occupy too much space, to give what might be considered the best rules; but they ought to contain full regulations respecting the entry, arrangement, and adjudication of all subjects of exhibition; a description of the manner in which the Monthly Meetings are to be conducted; and fix days on which the exhibitions are to take place: a Committee of practical men would at all times be able to form such rules according to the local circumstances of the Society, and these once made, should be altered as seldom as possible, and to prevent disputes, they ought at all times to be acted up to.

With regard to the arrangements of exhibitions, I am of opinion, that all Societies should keep their fixed days, and that the schedule containing the subjects for which prizes will be given, ought to be in possession of every member, at least four months previous, this would enable him so to arrange and manage the culture of his plants and fruits, that they may be in perfection at the required time. On the day of show, the grounds or rooms in which it is to be held, should be open from nine o'clock till ten, for the admission of exhibitors, one hour more should be allowed for the arrangement, and all persons whose subjects are not ready for the inspection of the judges by eleven, ought to be excluded.

Prizes should be given for specimens of beauty and rarity, as well as for those which display great skill in point of culture. It should be an object to reward real merit, rather than mere collections. Cut flowers arranged in devices. Dried specimens, paintings, and drawings, are subjects worthy of encouragement and reward; and last, though not least, the plan recommended by an "Admirer of Flowers," of instituting prizes for female competition, is worthy of adoption.

Much has been said on the subject of selecting the judges; the general plan is to choose three from the nurserymen's class, to

judge that of the amateur's, and vice versa, but this I think an invidious distinction: I should propose that in the separate departments, each party nominate one; whatever the arrangement may be, it is indispensable that there be separate judges for each department; any person understanding the merits of the one, might bequite ignorant of the other.

The prizes given by Horticultural Societies, should consist of cups or medals, so as to be preserved as marks of honour and distinction; it is not the value of the prize which is the object in view with nine-tenths of the exhibitors, but the merit of having produced specimens of first rate excellence.

I am quite aware that I have not investigated the subject so fully as it will admit, but, I trust, that this humble attempt will be received with the same good intention with which it is offered.

J. H. MOORE. .

Near Guildford, Surrey, Dec. 9, 1839.

NOTICES OF NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

To a large proportion of the subscribers to the Floricultural Magazine who are more or less interested in procuring and cultivating new and rare plants, we have much pleasure in saying that a similar notice to the following will be continued monthly, and as far as possible, the prices as well as other information relative to whatever is new and beautiful, will be given. The Gentleman who has undertaken to furnish the information in question, is admirably qualified for this duty, and possess opportunities unsurpassed by any in the vicininy of London.

Corraa cordata. Not only does there appear to be an inexhaustible variety in the productions of the Floral kingdom, for we receive constant accessions to the number of genera, and species, without any apparent dimunition of its resources, but these productions appear individually capable of an infinite increase in variety. We are yet but novices in the art of Hybridization; for although in the Dahlia, the Camellia, the Pansy, the Pelagonium, and some other popular plants, we are familiar with the astonishing effects produced by the fetalizing the flower of one species, with the pollen of another; we have nevertheless made but few advances towards obtaining the same happy results in many other plants, which are, doubtless, capable of an equal improvement. The merit of obtaining improved hybrid varieties of the interesting genus under consideration, is due to Mr. Milner, a genleman residing in the vicinity of London, who devotes some attention to the cultivation of plants. Mr. Milner has received several fine hybrid varieties of Corrœa, of which C. cordata, is decidedly the best. The foliage of C. cordata, is very superior to that of any of the older species, being large and cordate, of a light green colour, and free from the dirty ferrugineous appearance, so detrimental to C. speciosa. C. cordata, appears to be rather dwarf in habit, a very densely growing variety, and a very abundant bloomer; the seedling plant, which is about ten feet high being covered with bloom. The flowers are large and showy, and of a very fresh colour. This valuable plant, to which is one of the greatest triumphs of Horticultural skill, we remember to have seen, is now in the possession of Messrs. Lowe, and Co., of the Clapton Nursery.

Listandra Russelliana. A very promissing plant, raised from seeds sent home from the Organ mountains, in Brazil, by Mr. Gardner; and named by him in honour of the Duke of Bedford. L. Russelliana in foliage and habit, is nearly allied to the genus Melastoma, but produces a large head of crimson flowers, resembling those of Rhododendron Arboreum. It will probably require stove treatment, or at any rate the temperature of a warm conservatory.

Camellia Landrethii. This fine bybrid Camellia is a sample of the progress which Horticulture is making in the United States, being at the same time one of the first hybrids raised in America, and one of the best hybrids which we at present possess. The flower of C. Landrethii, in shape and colour, resembles that of C. Imbricata, but is much larger, exceeding in size, and almost rivalling in symetry of form, a full sized flower of the old double white. It is at present both rare and valuable.

Doryanthes excelsa. A splendid specimen of this noble plant has been lately received from Mr. Cunningham, of Edinburgh, and is now in the possession of G. Glenny, Esq., of Worton. The plant is about to flower, and the flower spike is already twelve or fourteen feet high. It will be in perfection about the end of summer, and the height of the flower stem, when full grown, will be about twenty-five feet. This fine plant has never yet flowered in England, although two or three plants have flowered in Holland and Belgium.

Verbena pulcherrima. A beautiful new species raised at the Clapton Nursery, from seeds received from Mexico in the summer of 1838. In habit, growth, and foliage, V. pulcherrima is perfectly distinct from any of the South American species lately introduced. It is an erect grower, and a very free bloomer. The flowers are large, and of a light purple colour, with a beautiful white centre. This will be a valuable acquisition to the flower garden.

Chorozema Dicksonii. Another of the beautiful natives of the Swan River settlements, in Australia. In habit and foliage, C. Dicksonii, is remarkably distinct from any other known species; the leaf being small and set round the edges with fine hairs; the habit is also more dense and bushy than any of the other species we possess. This valuable plant has not yet flowered well in London, but Messrs. Dickson, of Edinburgh, report it to be the finest species yet known. However, this may be, it belongs to too good a family for us to entertain a doubt about its value as an addition to our greenhouse plants.

Anemiopsis californica. A very interesting native of California, where it was found by Mr. Nuttal. Messrs. Young, of Epsom, who possess the entire stock of this valuable plant, received it from Mr. Buist, of Philadelphia. Anemiopsis is a dwarf growing plant, and possesses a very fleshy root; it flowers somewhat in the way of a Ranunculus, and its flowers are of a blueish colour. Messrs. Young consider it very difficult of increase, and have only as yet disposed of a few plants to some of the Continental nurserymen.

Liatris cylindracea. A beautiful species, which, although said to have been introduced in 1811, is, we believe, perfectly new to our collections. Its flower spikes attain a height of from three to four feet, and its flowers are proportionably large and dense. Messrs. Low and Co., of Clapton, have recently received plants of this desirable species, with other new and valuable plants, from North America.

[We believe our very excellent correspondent has fallen into a mistake, in supposing that the Doryanthus had not produced flowers in England. During the time of the late Mrs. Beaumont, when the gardens at Bretton Hall were in their zenith, probably about the year 1820, this plant produced a flower spike. We were, at least, informed to this effect, and as we were privileged to live there shortly afterwards, we gave credence to this statement, from finding four or five young plants then in the collection at that time. Plants of the class to which the one in question, belongs, bear their flower stems from the centre of the VOL. III. leaves, or heart of the plant, and therefore they die down as soon as the flower and fruit is perfected, but according to a fixed law of nature, by which plants in common with all animated beings, exhibit a tendency to reproduce their kind, previous to their own dissolution; in accordance, therefore, with this law, the Doryanthus produces from among the lower part of the leaves, suckers, or shoots, the whole nourishment of which is derived from the parent, the latter, therefore, seldom survives the removal of the former more than a few weeks. We have known the Doryanthus in various stages of its growth, for many years, but have never observed any tendency to increase itself under other circumstances than that described above. The Dorvanthus is a native of New South Wales, and is therefore recommended to be cultivated in the greenhouse or greenhouse conservatory. In such a situation we have never seen it thrive; we do not, however, doubt, but with careful and judicious treatment, it may be cultivated successfully in the ordinary temperature of the greenhouse. It may be worth while to observe here. our own experience at least teaches us to believe, that it is by no means a fair criterion from which to form an estimate of the hardness of any plant, of its power of resisting cold by the indications of tenderness. which it may exhibit when first removed from a higher to a lower temperature. This principle is familiar to all cultivators, and hence the wisdom of the practice of gradually hardening of (as it is termed) plants in preparing them for the open air in summer. We should, therefore suppose, that in removing a plant of Doryanthus from the stove to the greenhouse, it would remain at least twelve months, and very probably two years, before it recovered sufficient energy and vigour to grow. We have been led to make these remarks, not because our correspondent was unaware that this plant had produced flowers in England, a circumstance with which we believe very few are acquainted; but rather on account of the plants being one of unusual interest, and the noble grandeur of the plant itself. About seven or eight years ago, we saw a specimen of this splendid plant in full flower, displaying its gay scarlet blossom, on its erect and lofty flower stalk, being upwards of twenty feet in height. This plant was in the gardens of A. Campbell. Esq., at Wood Hall.—ED.]

NOTICE OF ACACIA AFFINA, AND OTHER REMARKS ON THE ORDER LEGUMINOS.E.

BY THE EDITOR.

The graceful light and airy foliage of the Mimosa seldom fail to have arrested the attention and admiration of those who derive pleasure in viewing the beautiful forms of nature. Exceedingly elegant as are the minute leafits of the gay and plume like foliage of many kinds of Mimosa or Acacia, that of Acacia affina is unsurpassed by any of this numerous genus. A handsome specimen of the latter, in full bloom, has just been sent us from our neighbour, Mr. Appleby, under whose care it has recently produced an

abundant crop of flowers. It has been cultivated by the Gentleman just named, in a span-roofed conservatory. This beautiful species of Acacia, is no doubt more or less known to most of our subscribers; it is one that has for several years engaged the attention of those who are interested in the acclimatizing of tender exotics; and as an half hardy plant, it has been treated here. It has also been grown in the open ground, with no other protection than a slight covering of saw dust about the stem, with the upper part quite exposed; and although the part of the stem above ground was killed by the intense frost of the previous winter, it sprung again from the roots, and pushed freely during the growing season, thus evidently shewing that it is a plant endowed with great capabilities of resisting frost, and in ordinary winters, we have no doubt it will be found hardy. In the winter of 1836 and 1837, although visited by severe frosts, this plant escaped uninjured in several situations in this garden; and in Devonshire, Wells, and the Southern Counties of England, it might probably grow for many years without receiving the slightest injury. Acaia affina although half-hardy, is nevertheless, a most desirable plant for the conservatory or greenhouse; its yellow flowers are produced in ample profusion in winter months, and are delightfully odoriferous. In the greenhouses in the Sheffield Garden, several plants are now coming into bloom.

Acacia belongs to the natural order Leguminosæ, of Jussieu. It is not only one of the most extensive that is known, but contains also many plants which are of the highest importance to man, whether we regard them as objects of ornament, of utility, or of nutriment. When we reflect that the cercis which renders the gardens of Turkey resplendent with its myriads of purple flowers; the Acacia, not less valued for its airy foliage and elegant blossoms, than for its hard and durable wood; Braziletto, Logwood, and rose woods of commerce; the Laburnum, the Cytisus, the Furze, and the Broom, the pride of the otherwise dreary heaths of Europe. The bean, the pea, the vetch the clove, the trefoil, the lucern, all staple articles of culture by the farmer, are all species of Leguminoseæ; and that the gums, arabic and kino, and various precious medicinal drugs, not to mention indigo, the most useful of all dyes, are products of other species. Such are its extensive and varied properties, that it would indeed be difficult to point out

an order presenting greater claims upon attention. To this order belongs Dr. Wallich's Armhirstia nobilis, a large tree, bearing pendulous racems of deep scarlet flowers, and is unequalled for beauty and grandeur in the vegetable kingdom. The general character of the order is, to be eminently wholesome, but there are some curious exceptions to this. The seeds of Lathyrus Aphaea are said to produce headache; the seeds of Laburnum are poisonons; the leaves of Ornithopus scorpioidy are capable of being employed as vesicatories; the juice of Coronilla varia is poisonous; the purgative effects of Senna are possessed also by other species, even by Collutea arborescens, and Coronilla emerus. According to M. Delile, the Senna of the shops consists of Cassia acutifolia, Cassia senna, and Cynanchum argel; and the same author observes, that the Cassia lanceolata, of Arabia, does not yield the Senna of commerce. The well-known root of the liquorice contains an abundance of sweet subacrid mucilaginous juice, which is much esteemed as a pectoral, and similar qualities are described to the roots of Trifolium alpinum. The roots of beans, genistas, onions, moringa, anthyllus cretica, &c., are excellent diuretics. Those of Dolichos tuberosus, and Lathyrus tuberosus, are wholesome food. The bark of some of the species of Acacia abound to such a degree with tanning principles, as to have become objects of commercial importance; and some years ago, several tons of the extract of Acacia bark were imported from New South Wales for the use of tanners. The valuable astringent substance called Catechu, or Khair tree, is obtained from a species of Acacia, gum dragon and sandle wood is the produce of Plrocurfrus, Draco, and Santalinus; gum lac of Erythrina monosperma; gum arabic is yielded by Acacia senegalensis, and some other species; and gum tragacanth by Astraglas creticus, and similar species.

Among the woods of trees of this order, the most important is that of the locust tree, Robenia pseudacacia, it is a light bright yellow, very brittle, but exceedingly hard and durable. The rose wood of commerce is from a species of Acacia, common in the woods of Brazil.

As dyes, all the Indigoferas, and some Galegas, yield colouring matter in various degrees.

"It is to this order also that the Tonka Bean belongs, from which is obtained the volatile oil, so remarkable for its odoriferous pro-

perties. The same substance is found to reside in some quantity between the skin and kernel of the fruit of Meliotus officinalis.

NOTES BY THE EDITOR.

In the Gardener's Magazine for the present month, is given a summary of the events relating to gardening, and rural improvement generally; and its progress in Britain and in foreign countries during the year that is just ended. The first circumstance in this notice that deserves remark, is the generally known fact that the winters of 1837-8 were so severe as to kill many kinds of trees and shrubs that had endured, without the least injury, the severest frosts of the last half century. Common laurel, Arbutus, Portugal laurel, Rhododendron ponticum, sweet boys, and even the common evergreen oak, previously noticed in this Magazine, the diameter of which was eighteen inches in the stem, the common furze, and several indigenous plants, all killed to the ground. The frost during January set in with great severity; its effects were, however, very different in different parts of the country. In exposed and elevated situations, where the air was less charged with moisture, and where the shrubs were more exposed and less lnxuriant, with the wood well ripened, the severity of the frost was much less felt. In the Sheffield garden, where the situation is an exposed one, the comparative injury sustained by the frost was much lighter than in situations which were warmer, and very much less than many places in the vicinity of London. In the neighbourhood of the latter place, in high situations, most kinds of plants being moderately hardy, were quite uninjured, while in lower situations, and Mr. Loudon instances "the lower parts of the pleasure ground and the kitchen garden, at Bromby Hill, Kent," when (examined by us, with Col. Long's permission, on Nov. 8th) they appeared wholly uninjured in their bark and foliage, and in the young shoots of the current year; yet when the older wood is cut into, it is found quite brown and dead, and hence it is easy to predict that the plants cannot live above a year or two longer." A few remarks follow here relative to the rash and imprudent practice of cutting back trees and shrubs immediately on its being discovered that they have sustained injury from frost. This we

hink deserves to be strongly deprecated, at least with reference to valuable plants, inasmuch as it cannot be ascertained with certainty how far they have been injured, until the growing season returns; and besides, it will generally be the case that cutting back at so early a season, will occasion the shoot to die back to a greater distance than would have been the case had it been allowed the protection of the decayed twigs, a circumstance which is to many kinds of trees and shrubs of much importance.

The following remarks on the effects of the preceding winter on Hybrid plants, we particularly recommend to the attention of our readers. The circumstance is known to those who are attentive observers of nature, that in hybrid plants the progeny takes the constitution of the female parent, whilst the habit and characteristic features are those of the male. Thus it is found, as might have been expected, that a cross between the tree Rhododendron, of Nepal, and the Rhodend ponticum, of the temperate parts of Asia, the latter being the female parent, would produce an offspring much more tender than a cross between the Asiatic tree Rhododendrons and those of North America, the latter being the female parent. Hence we are enabled to account for the anomalous circumstance of some of the Bengal Hybrid roses having been killed by last winter's frost, while others have been partially injured. On the same principle we are enabled to understand why the offspring of Rhododendron catawbiense, R. maximum, caucasuum, &c., fertilized by R. arboreum, have stood the past winter, without receiving any injury, or if any but very slight; while the progeny of R. ponticum, fecundated with R. arboreum, has invariably been killed down to the ground or totally destroyed. We fully concur with Mr. Loudon in thinking the following a most important fact:-"the conformation of the general principle that in cross fecundation the constitution of the female parent prevails in the progeny, is, we think, the most important gardening feature that has transpired during the past year.

Among the inventions of the year applicable to Horticultural purposes, Joyce's stove is deserving of notice. The merits of this invention has been variously estimated, some have lauded it as the most remarkable discovery since the invention of gunpowder; and it has also been stated, that Lord Brougham exhibited one on his breakfast table every morning; to have carried it about with

him in his carriage, and to have pronounced that its inventor would be inadequately rewarded by the transferring of the national debt to his name.

It is reported that the inventor, Mr. Joyce, was offered £100,000 for his Patent, but it appears he preferred entering into partnership with Mr. Harper. The fuel used by Mr. Joyce for this stove, is highly prepared Charcoal, that is properly burned. The invention has sunk very much in public estimation, since having been submitted to the investigation of scientific men, both at home and on the Continent.

Under particular circumstances, it is likely to be applicable to gardening purposes, but owing to the expensive character of the fuel, it is by no means probable that it will ever become very generally used.

Allusion is also made here to the proposed National Garden, and this is ridiculed as absurd; the situation of the inner circle of Regent's Park, being the site selected. It is thought unsuitable, on account of the numerous buildings which closely surround it, and that tender and delicate plants cannot be cultivated there with success. We do not think this a valid reason for objecting to the formation of a garden in the situation referred to, not that we think the situation by any means eligible for the culture of delicate plants; but since no situation can be selected near to the metropolis, presenting fewer objections in this respect. We think the Society will be acting a benevolent part, in promoting an institution where a very exensive collection of plants may be cultivated successfully. It is comparatively in the country, and yet it is sufficiently near to be reached in the course of a few minutes ride, by many thousand inhabitants who reside on that side of the metropolis. If it contained nothing but a collection of trees and shrubs, with such ornamental plants, herbaceous and ligneous, as could be kept alive and grown with moderate success, we think this would quite justify the end in view. To us the name appears of little importance, whether it be called a National Garden, or a Joint-stock Company's Garden, provided it be sufficiently near the metropolis, and accessible to all who feel disposed to avail themselves of the privilege of visiting it.

It is said that the amount paid as prizes at the numerous Provincial Horticultural exhibitions during the year, is immense, and contention for prizes among small commercial florists, amounts to a species of gambling. When Horticulturalists become more refined, the consciousness of having produced what is in itself excellent, will be sufficient excitement for competition, and this feeling is rapidly on the increase among gentlemen and their gardeners, and also among respectable nurserymen who send articles for exhibition, but not for competition. Our own opinion is, that exhibitions cannot be conducted successfully and satisfactorily, without the excitement of money prizes, or a liquidation of the expenses incurred by the exhibitors in bringing their articles for competition. This presents an apparent fairness, and has been adopted in some instances, and found to give as much satisfaction as in the nature of these things could have been expected; prizes are, of course, awarded as in other cases, but are nominal. They are, however, examined and determined with equal care and judgment, in order that whatever is of merit, it may be pointed out as such by competent judges. Honour and merit is by most competitors all they profess to seek, and is, in reality, all that propriety and proper feeling ought to wish for, and indeed all that ought to be conceded or encouraged by those Societies at least professing to promote Horticulture on proper principles. In many instances, an inducement has been held out for competition by offering large prizes, and this has created a class of competitors, who value their prizes only in proportion to the actual. value received for their different awards.

To a certain extent this holds out incentives to encourage and foster a taste for Horticulture, but presents equal temptations to compete for money, not only to meet the expenses of attending the exhibitions, which we think perfectly fair, but also as a direct means of supporting their trade. This, in our opinion, is a false principle, and no exhibition can be productive of those beneficial results desired, and proposed by those who institute and support them. Our own opinion is most decided, that the pandering to this principle has done more to injure and retard the success of Horticultural exhibitions, and destroy their usefulness, than all other causes put together; nor can any Society whatever prosper, until the love of gain has been disavowed, and practically so by every member connected with it. We might, indeed say, with much prop riety, that nearly all the Societies of this kind

throughout the country, are half strangled by the unhallowed fangs of Mammon.

To prescribe a remedy for any evil which is universal, as well as so fully in accordance with the feelings of human nature, would be no easy task. As a means, however, of bringing forcibly before the mind better motives, and to excite emulation by right principles, we think something like the following would, in many instances, be applicable, and productive of much good. As Englishmen are generally said to love a good dinner, and as we never remember to have seen practical evidence that Scotchmen disliked good things, we would strongly advise that, at the end of each year, there should be an annual dinner, where the various incidents of the year, bearing on Horticultural subjects, might be discussed. Such arrangements should be adopted at the commencement of the season as would enable the treasurer to set apart some portion of the funds, so that all the competitors, who had exhibited during the season, should receive a free ticket, and thereby induce a large attendance of amateurs, florists, and practical gardeners, with as many of the neighbouring gentlemen and persons of distinction as could conveniently attend. By thus bringing together a large concourse of persons intimately interested, and immediately or remotely concerned in the success of such institutions, the probability is, that many would, on such occasions, enroll themselves in the list of its members and supporters. As much would depend on local circumstances, perhaps all that could, with propriety, be proposed for the detailed arrangements of such meetings, would be, that the dinner table should always be presided over by some person of influence, who would, of course, possess an acquaintance with natural history. In addition to the president, he should be supported by other gentlemen, who should be, in some measure, qualified to make a few remarks, bearing immediately on the subjects of the day, and, as far as possible, to refer to some of the articles to which prizes had been awarded, either as fruits or plants; the latter especially would afford many instructive, as well as amusing anecdotes, relative to their individual character, their properties, or their near affinity to some other plant or family of plants; this would not be difficult, since so many of them enter into the ordinary comforts and luxuries of life. We should further propose, that such dinners be

supplied at moderate charge, and be held in some apartment sufficiently spacious to afford accommodation for the admission of ladies and their friends to attend the meeting, so as to be entertained by the speeches, or short discourses addressed on the occasion.

We fear an apology is due for the above remarks, in having extended them to greater length than was at first intended.

Under the head Science of Gardening, the following remarks occur, in speaking of the Penny Cyclopædia. "The gardening articles, as well as the botanical ones, are understood to be written by Dr. Lindley, and they are all treated scientifically. These articles alone, in our opinion, give this Cyclopædia a decided claim to the preference of the gardener, independently altogether of its extraordinary excellence in other respects and its low price."

On landscape gardening but little of any interest has transpired, and but few articles have been given, exclusively devoted to the subject. It appears a plan of the Leeds Zoological and Botanical Gardens has been sent for Mr. Loudon's inspection. He thinks the plan ingenious, but at the same time impracticable. The plan represents the trees and shrubs, with the herbacious plants, arranged and connected so that the ligneous and herbacious plants stand opposite and quite contiguous to each other, on a plan neatly got up, as was the one in question; such an arrangement presents much that is pleasing, and in theory would appear most complete. But, in the course of a few years, as the trees become large, they would shade the herbacious plants, which, together with the roots of the former, mixing in the herbacious beds, would render the latter quite unfit for the vigourous production of flowering plants. It is stated that were Cavendishii, Musa Dacca, &c. are becoming generally cultivered, and are found valuable as fruit bearing plants.

By far the most valuable paper in the present number of tLis Magazine, (Loudons,) and probably the most useful that has appeared during the year, is a report on the new species and varieties of hardy trees and shrubs, raised in the Horticultural Societies Gardens, since the completion of the manuscript of the "Arboretum Britannicum." This, we are told, has been drawn up for the Gardener's Magazine, by Mr. Gordon, Foreman of the Arboretum, by permission of the Council of the Horticultural



Diarithus Farugineus Digitized by D Latine Patens

Society. Each species and variety is described at some length, noticing the characteristics of habit, situation, and for which they are best adapted, so far as they are known, &c. This is an excellent article, presenting at one view, the whole of what is at present known as new, either of trees or shrubs.

In a paper on the heating of hothouses with hot water, by Alexander Forsyth, a detailed account is given of the comparative merits of the different modes in general use. Mr. Forsyth, in common with most other persons, in estimating the surface of pipe requisite to maintain a given temperature, although he does not overlook the important fact, that one hothouse may be puttied in the laps, and another left open; the one may be placed in a sheltered situation, and the other much exposed. Again, scarcely any two houses are to be found alike in the accuracy of the fittings of doors and windows, with a variety of other circumstances, equally effecting the temperature,—that although he has not overlooked these facts, he does not appear to attach that importance to them, which we think they deserve.

EDITOR.

REFERENCE TO PLATE XXXV.

DIANTHUS FERRUGINEUS, rusty-leaved Pink.

NAT. ORD. CARYOPHYLLER. CT DECANDRIA DIGYNIA.

As a genus of herbaceous plants, D.....hus is equalled by few, and certainly surpassed by none, when we regard it as an object extremely beautiful in all its varied gay, but elegant tints of shade and colour. But this is a fact so universally acknowledged, that we need not refer for an illustration of the statement to the Carbation, the Picotee, and the Pink, with their endless, but beautiful varieties. In the way of hybridazing, much has already been accomplished with Dianthus; but when its capability is considered, we feel confident much yet remains to be done, and for this purpose we should consider the species in question admirably adapted.

SALVIA PATENS, Spreading Sage.

NAT. ORD. LABIATE. CLASS. DIANDRIA MONUGYNIA.

A plant with a figure and dried specimen of this truly splendid plant was very kindly sent us by our excellent friend and correspondent "Florum." As an half hardy perennial, the Salvia in question, is allowed to be one of the best things of the kind that has been introduced for some years. Until within the last month or six weeks, we had supposed the whole stock of this plant, was in the hands of Messrs. Low and Co., of the Clapton Nursery, and Mr. Page, of Southampton. Unfortunately, however, for these enterprising Gentlemen, it proves to be in the hands of other persons.

The Gentleman to whom we are indebted for our plant and drawing, is an

Amateur, most ardently devoted to the culture of showy plants. He is in correspondence with several friends in Mexico, through whose influence and kindness in sending him seeds and plants, he is in possession of seedlings of various interesting genera; among these a new Salvia, with duli red flowers, has made its appearance, and this we hope also shortly to possess, having been kindly promised a plant by the same Gentlemen.

It may be right to state that Mr. Plant, Florist and Nurseryman, at Cheedle, has purchased a large plant of Salvia patens. From the circumstance just detailed, it will appear that there is much uncertainty and risk in speculating to a large amount in the purchase of new and rare plants, especially when indigenous to countries where Europeans have access. It was generally supposed by those Nurserymen and other Gentlemen concerned in the collecting and procuring of new plants, who visited us during the Autumn, that this plant would prove a profitable speculation to its owners, and we shall most heartily rejoice, should this be the case; but this is now very doubtful, since it has made its appearance in various parts of the country.

It is evidently a very fine growing plant, and will, therefore, soon become generally cultivated. To anticipate the history of this plant during the next two years, would afford material for an interesting paper, when we know that at present there are only a few plants in the country; yet such is its ornamental character, that the demand for it will be almost unprecedented; it is also of luxuriant habit, and hence the facility with which it will be propagated, that we should think our estimate a moderate one in saying, that by the end of the year 1840, it will have been multiplied into millions, and all this by offsets, cuttings, or slips. The habit and appearance of this Salvia is much like that of S. formosa.

The following are the remarks kindly sent us along with the drawing, by our Correspondent "Florum."

ON THE CULTURE OF SALVIA.—This fine species was first flowered in this country, in July last, under the care of Mr. W. Seaward, Jun., at J. P. Magors, Esq., Redruth, Cornwall, who received a root of it in a box of Cacti, from Real del Monte, in the early part of the Summer; and subsequently it flowered in the collection of Miss Harris, Hayle Foundry, who raised seven plants of it from seed received from her Correspondent at Real del Monte.

It has flowered in great perfection in the open air, at Redruth, requiring a shedy situation, and to be protected from high winds; but it seems to do best in the shady part of a very airy greenhouse; in this situation, the individual florets remain expanded several days. It is of easy propagation, cuttings, striking, readily in the latter part of the summer, and as the plant throws out numerous lateral shoots, these are plentifully obtained, and few Amateurs need be without this splendid Salvia next Autumn—it has grown well in rich loam; the flowers are produced in the axils of the leaves, which are opposite; heart-shaped and fragrant, the root fleshy and large.

I can confidently recommend this to all who are interested in the culture of new plants, and especially to those who love really beautiful ones, for in neatness of shape it is surpassed by few, and in colour by none; all that have yet seen the flower in my company, allow it to be the very finest blue they have yet seen, and I am sure that no plate can flatter this flower in colouring; the lower lip invariably expands itself, a characteristic of peculiar beauty in this species. Its capabilities of enduring the winter cannot yet be ascertained, but a plant is now in fine flower in a cold frame of the writers.

AMATEUR FLORUM.

Nov. 26th, 1838.

PIMELEA INCANA, Horry Pimelea.

NAT. ORD. THYMELE E. CLASS. DIANDRIA MONOGYNIA.

Among the hard wooded dwarfshrubs of New Holland, the genus Pimelea is one of the most interesting, as well as one of the most ornamental. The species in question is not so gay in the colouring of its flowers, being white, but its compact habit, and the exceeding neatness of its foliage, with the

white downy appearance of the stems and under sides of the leaves render

It highly desirable.

We have previously noticed this plant, stating our reasons for believing it to be hardy. It is at present too scarce to be generally tried, as to whether it be hardy or tender. It is, at any rate, a very desirable and showy green-house or conservatory plant, and we believe may now be obtained in the London Nurseries.

NOTICES OF NEW PLANTS.

MALVA CREEANA, Showy red-flowered Mallow.

Bot. Mag.

NAT. ORD. MALVACEÆ. CLASS MONADELPHIA POLYANDRIA.

Pretty generally cultivated, the flowers are red or rose colour, with deeply lacemated leaves of a lightish colour: requires the protection of the green. house, and flowers during June and July. It was sent from Messre. Pince and Co'a. Nursery, at Exeter, in 1837, to the Botanical Garden, Edinburgh, where it was first flowered. But little of its history, and nothing of its native country is known.

PASSIFLORA INCARNATA, Yellow-fruited Vergenian Passion Flower.

Bot. Mag.

NAT. ORD. PASSIFLORE &. CLASS MONODELPHIA PENTANDRIA.

The flowers of this handsome species are of a whiteish blue, the leaves are lobed, and of a light green. A native of the Southern States of North America, and cultivated in our Gardens upwards of two hurdred years ago. It is said to be distinct, but nearly allied to P. edulis.

RELICERYSUM MACRANTHUM, Large flowered Helichrysum.

Paxton's Mag.

NAT. ORD. COMPSITE. CLASS SYNGENESIA SUPERFLUA.

This is a very handsome everlasting, a native of Swan River, introduced from thence by Captain James Mangles, R.N. It is said to have flowered for the first time in the Garden of R. Mangles, Esq., of Sunning Hill, Berks, and it also appeared about the same time in the Nurseries of Messrs. Rollison and Low. This will prove a valuable addition to the list of showy annuals, having been found to be decidedly annual.

COLLINSIA HETEROPHYLLA, Various-leaved Collinsia. [Bot. Mag.

NAT. ORD. BCROPHULARINEE. CLASS DIDYNAMIA ANGIOSPERMIA.

The very handsomest of the genus yet known; the flowers are very large, the lower lip very dark-coloured. It was found by A. Nuttail, on the Columbia, and first raised at the Experimental Garden, Edinburgh, by Mr. James McKnab. It is nearly allied to C. bicolor, but the flowers are larger and darker in their colour, and will be most acceptable as an annual.

FUCHSIA CYLINDRACEA, Cylindrical-flowered Fuchsia. [Bot. Reg.

NAT. ORD. ONAGRACEÆ. CLASS OCTANDRIA MONOGYNIA.

In habit, this reminds us of the plant for several years cultivated under the name of F. Thymofolia. The flowers of this, like the latter, are also small, but of an exceedingly brilliant red, and very graceful, having very long footstalks. It was raised in the London Horticultural Societies' Garden, from seeds communicated by George Barker, Esq. of Birmingham.

Although not the first recorded instance of the Fuchsia bearing male and female flowers, it is not common to the genus. This characteristic is, how.

ever, peculiar to the species under consideration. In speaking of this circumstance, Dr. Lindley says "it will be necessary to remember the species is diacious, some of the individuals being entirely male, and others entirely female; the latter are the less showy of the two, their flowers not being half the size of those of the male. This is a very singular fact, in such a genus as Fuchsia." This is curious as a variety, but not remarkably showy.

VERBENA TEUCRIOIDES, Germander-leaved Vervain.

NAT. ORD. VERBENACEE. CLASS DIDYNAMIA ANGISPERMIA.

In habit, in the profusion and beauty of blossom, this is indeed a most interesting and desirable plant, and we think that on this occasion, we may say with propriety, that no garden of any pretensions ought to be without it.

Verbena Teucrioides, and Salvia patens, are decidedly the most crnamental plants of their class (half hardy) that have been introduced during the present season. And we are very certain that no one having place and opportunity, will have cause to regret giving ten or twenty shillings for a plant of each; altogether apart from novelty, they are very desirable, and this is more than can be said of many new plants. Seeds of the plant now under consideration, were found by Mr. Tweedie, on Mounte Video, but more abundantly on the sugar loaf Mountain of Maldonado, and marked No. 461. Verbena, with slightly purple flowers, and highly odoriferous. It was, however, previously transmitted to this country by Dr. Gillies, from the highest ridge of the Uspalata Mountains, in South America, and at an elevation of ten thousand feet above the level of the sea.

The Earl of Arron was the first to raise this plant, who, it would seem very kindly presented a plant of it to Mr. Niven, Curator of the Botanio Gardens, Glasnevin, near Dublin, who subsequently bloomed it. Mr. Handaside, Nurseryman of Musselbrough, Edinburgh, has since become proprietor of Mr. Nevin's entire stock of it, and is disposing of it attwenty shillings per plant. The habit of the plant is upright, about two feet in height, bearing from the lower part of the stem numerous spreading branches, the main stem terminating in a dense spike of flowers, upwards of a span in length. Mr. Nevin says "the plant is of easy culture, appearing to luxuriate in a mixture of peat, loam, and sand, with a small portion of well-rotted cow dung. The delightful jasmine-like odour of the flowers, is greatest and most powerful about dark and during the night, towards midday it diminishes considerably, gradually increasing again towards the evening."

It is not here stated whether it be perennial or annual, but we believe it will prove as much a perennial as the Group (Melindres) to which it evidently belongs. It may be planted in the open border during summer, and kept in the greenhouse or a cold frame during winter.

DENDROBIUM SULCATUM. Furrowed Dendrobium. [Bot. Reg.

NAT. ORD. ORCHIDACEÆ § MALAXIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a yellow flowering species, with upright jointed stems, above nine or twelve inches high, producing yellow flowers from the joints of the stem It is a native of India, introduced from thence by Mr. Gibson, his Grace the Duke of Devonshire's collector. "It is a fine species, nearly related to D. Griffithianum, from which it differs in its three flowered peduncles, and in the form of the lip."

CATTLEYA GUTTATA 6. RUSSELLIANA. Spotted variety, Lord Edward Russell's variety. [Bot. Mag.

NAT. ORD. ORCHIDACE E. CLASS GYNANDRIA MONANDRIA.

In our notice of Woburn Abbey, at page 55, in the August number of the Floricultural Magazine, we mentioned this Cattleya. The unusual size of the foliage, and the robust habit of the plant, attracted our attention. It appears to have since flowered, and was figured at Woburn during August last. In the notice of this plant by Sir Wim. Hooker, he observes, "this superb variety was brought to the Woburn collection from Brazil, together with many other

rare South American vegetable productions, in the spring of 1838, by Capt. Lord Edward Russell, R.N., then commanding H. M. S. Actæon. It was given to that nobleman by the Directors of the Botanic Garden at Rio, with the information that it was one of two specimens that had been recently discovered in the organ mountains." This is a most admirable variety, and one that will be much in request among Orchideæ growers. We think the colour of the flower darker than the original C. guttata.

COMPARETTIA COCCINEA. Scarlet comparettia.

Bot. Reg.

MAT. ORD. ORCHIDACEA (MALAXIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a small variety, said to be a native of Brazil, and flowered at Hackney, in the collection of Messrs. Loddige, in August last. It is a small plant with long lance shaped leaves rising from small pseudo bulbs. The scarlet flowers produced on short but graceful and very slender foot stalks.

ANIGOZANTHUS FLAVIDA VAR. BICOLOR. Two coloured, yellow-haired Anigozanthus. [Bot. Reg.

NAT. ORD. HEMODORACEE. CLASS HEXANDRIA MONOGYNIA.

This is an exceedingly beautiful variety. The flowers are produced on much branched panicles, upon an upright rough stem. The florets are green, with a scarlet calix or base, and clusters of from three to six. Scarlet and green are colours by no means commonly met with in plants. They are present here, and, what is more remarkable, most agreeably blended together, and the happiest and most pleasing effect is the result.

What adds much to the value of this plant is, that it may be grown in the greenhouse, or even in a cold pit, if protected during winter. We would stronly impress upon the attention of those who take pleasure in showy plants, that this is one deserving their especial notice, and we regret that Dr. Lindley has altogether omitted to state where it is grown.

HYPOXIS STELLIPILIS. Starry-haired Hypoxis.

(Bot. Reg.

NAT. ORD. HYPOXIDEAS. CLASS HEXANDRIA TRIGYNIA.

A pretty plant, with a profusion of foliage, of a light glaucus green colour, from the axils of the stem, variously situated, rise solitary star-shaped yellow flowers. It is a native of the Cape of Good Hope. Introduced many years ago by Messrs. Colvill. In the Glasgow Botanical Garden it thrives well in the greenbouse.

ZIGANDENUS GLAUCUS. Glaucus Zigandenus.

NAT. ORD. MELANTHACE ... CLASS HEXANDRIA TRIGYNIA.

A perennial herbaceous plant, from North America, with grass-like foliage, bearing a few white flowers upon as upright stem. The flowers open about the first of June, and continue in bloom for two or three months. It is in the possession of Messrs. Chandler and Sons, of Vauxhall.

CATASETUM PORIFERUM.

This is in the possession of Messrs. Loddige and Co. A native of Demerara, and in habit agrees with Catasetum deltoideum, and like this species the flowers are richly spotted with deep purple.

PLEUROTHALLIS MUSCOIDEA.

"This is the most tiny orchidaceous plant yet discovered. It has no stem, the leaves are two lines and a half long. The peduncle as fine as a hair, and about four lines long." This is also in the possession of Mesers. Loddige.

NOTYLIA PUNCTATA.

Dr. Lindley says, the original species to which the name belongs, is now lost to our gardens, and the name appropriated to other plants resembling it, so much as to be easily mistaken for it; and that he had considered specimens

sent him by various growers, as mere varieties, but that he is now satisfied the supposed varities constitute at least five well marked species. They are the following:—

NOTYLIA INCURVA.

The flowers of this are larger than any of the others, and of a straw colour. It was obtained from Trinidad, by Messrs. Loddige.

N. BARKERI.

A native of Mexico, with smaller flowers than the last. In the possession of Mr. Barker, of Birmingham.

N. TENUIS.

Flowers smaller than N. incurva, and remarkable for its narrow acuminate sepals and petals.

N. MICRANTHA.

Native of Demerara, with flowers half the size of the smallest of the others-

MISCELLANIES.

We would take the opportunity here of drawing attention to Typo and Son's advertisement, of Ranunculuses. It is not, of course, the case that all situations are favourable for the successful cultivation of this splendid flower; those, however, who possess a rich dry and rather sandy soil, and are in any way concerned in the production of showy flowers, will not be disappointed in the return usually made by a well grown bed of Ranonculuses, when in full bloom. The Ranunculus has been admired and cultivated for the beauty of its flowers, for several centuries, and in Parkinson's time, 1629, when he published his "Garden of Pleasant Flowers." The Ranunculus was in high esteem, and the author in question gives figures, and describes twenty of those considered then the most popular varieties: and at the conclusion of his descriptive notice, adds—" The names that are given, will serve this work, that thereby they may be distinguished one from another, for to set down any further contrivance of names, how fitly or unfitly they have been called, and how variably by divers former writers, is fitter for a general history." "Only this, I would give you to understand, that the Turkey kinds have been sent to us under the names of 'Terobolos,' for the single and 'Terobolos Catemer lade; and yet often times those that have been sent for double, have proved single, so little fidelity is to be found among them.

Mr. Tyso has also favoured us with his sheet catalogue, containing descriptive lists of Ranunculuses, named sorts, and seedling Tulips, Geraniums, Carrations, Picoters, Pinks, Dahlian, and Pansias. This is the best arranged, the most comprehensive, and explicit sheet catalogue we have seen. It contains a table of abbreviations, by which the colours are minutely and clearly described.

Our friend, Mr. Widnall, of Grandchester, has kindly favoured us with his list of pansies, which out of many seedlings, he has selected as deserving of cultivation. It is true, the pansia is an exceedingly fugetive flower; but, after all, it is one of the most beautiful objects that can adom the flower borders during the early part of the summer. It is also a plant of easy culture, and of most endless variety and beauty; and, we are very glad to be informed, that our very intelligent friend "Belerium," is a most zealous and successful cultivator, as an amateur of this lovely plant. The numerous prized list now circulating, fully prove that this lovely flower is ingreat request.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXIII.—FEBRUARY, 1839.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE OF MEXICAN CACTI, &c.

This curious tribe is rapidly advancing in public estimation, and, owing to the facilities which this country has from its commercial relation with Real-del-Monte, good collections are annually imported, and, therefore, the details of a simple and successful mode of culture will perhaps be acceptable to the collecting amateur.

Early in the summer of 1837, a box containing C. senelis, and about 30 species of Melo-cacti, Echino-cacti, &c, was received from Real-del-Monte; and, after a long voyage, having arrived in middling condition, they were potted in a rather dry and moderately rich loamy soil, with a good drainage, and were plunged in a slight hot bed, which was shaded during the heat of the day; little air and no water was given for a fortnight, after which a little of the latter was given, as the plants seemed, from their dryness, to need it; as the summer advanced this was gradually increased, and the bed as it cooled was renewed. At the end of the autumn most of the plants had recovered their colour, and appeared to be in a growing state. The water was at this season discontinued, and in December they were removed into a room over a warm kitchen, where they were kept dry during winter; in spring, after being put into a hot-bed for a few weeks, they were placed in a cool greenhouse, where they have been kept to the present time, (Dec. 22nd). During the summer and autumn they have thriven amazingly, several have flowered freely, and three produced seeds; the plants are quite healthy, the spines, which were destroyed in car-

Digitized by GOOGIE

VOL. III.

riage to this country, are in fine regularity, and now mostly reproduced. With the exception of Senilis (or Old Man Cactus) I am ignorant of their names, but this species is in fine growth, and his silvery hairs are indeed to him a crown of glory; his venerable appearance would seem to increase with his age, as I fancy the hairs become whiter as they lengthen.

I have seen several imported collections, which are kept upon the old system of starvation and dry stove heat, and, perhaps, nothing so satisfactorily shews the superior method I have detailed than the comparison of the one with the other. Those grown in the stove present a dry parched stunted appearance, the spines weak and irregular, and flowering rarely known; and, in many instances, the plants do not progress at all, in the liberal culture they present a beautifully healthy hue, and I believe I am correct in saying, that all of them have grown; and more than this, of the original number received but two have failed, and those were partially decayed on arrival.

In all gardening operations common sense points out simple culture to be the most desirable, and, I think, that all really practical amateurs have succeeded best when they have adopted a plain rational course. Hence the improvement annually made in the culture of exotics; and hence also, the explosion of the old method of treating the whole family of Cacti, where they are grown in high perfection; the best cultivators here give good soil, little artificial heat and a moderate portion of water; to show that great success attends such treatment, I could refer to two or three collections where, perhaps, some specimens have been all that could be wished, I have seen a grafted plant of C. speciosum with more than 1,200 expanded flowers, and C. speciosessimum has had 70 in full perfection, and those are not solitary instances.

Should any admiring amateur of limited means have been deterred from commencing a collection of the spined Cacti, from an idea that a dry stove is indispensable to successful treatment, I hope that the details above will convince him that such treatment is not only unnecessary, but actually prejudicial to a fine development of the most interesting charactesistics of the family; and should such a person be desirous of procuring a collection, the Editor of this Magazine can (to a post-paid application) give my address, and in such case I shall be happy to put him in the best

way to obtain a box, as I have means of procuring such at a moderate price.

Perhaps some reader of this may be able to inform me if C. senilis has ever flowered in this country, and, if so, if it has produced seed, and also whether or not any plants have been propagated from it, if so by what means; this would be interesting to many of your readers probably, for, as far as I know, it has shown no disposition to increase either by offsets or seeds. Should this, under artificial treatment, be the case, this species will long be scarce and valuable. In due time I hope to be able to send a paper upon the habitats of the various species of Mexican Cacti, the collector, who has sent home most of the collections of these to England, being about to return to this country.

It may be well, perhaps, here to state, that our climate is a very mild one, and highly favourable, of course, to the successful treatment of exotics.

Cornwall. Belerium.

[We are greatly obliged to our excellent correspondent for bringing the claims of this highly curious, grotesque, but, in many instances, beautiful family before the attention of our readers. The successful treatment of Cacti and suculents generally, admit of, perhaps, less variation than any other tribe of plants whatever; but when their peculiar and eccentric habits are known and respected, no class of plants require treatment so simple and uniform. In the cultivation of succulents the necessary labour is less than half that usually required in the culture of hard wooded plants, which so often lose their foliage, either from inattention in watering, or become etiolated and weakly for want of room, light, or air. Not so with the succulent, unless long continued, for, except during the period of growth, when gentle warmth is highly beneficial, with careful and attentive supplies of water; they may be preserved in very excellent health in any ordinary apartment or living room secured Their tendency to flower is, however, greatly promoted by light and air at the time they are in vigourous growth. By some it is, indeed, contended that they do not only bear the the full exposure to the sun, even during the clearest days, when his rays are the most powerful, but require to be so treated when the production of flower is desired. At all seasons hard wooded plants require, at least, daily supplies of water, and sometimes more frequently; but the succulent, at least during nine months in the twelve, when not in a state of growth, may be kept in perfectly good health by watering once or twice a week. Most of the kinds are destitute of foliage, in the absence, therefore, of this graceful appendage, the natural family of Cacti is generally admired, and mostly remarkable for the singular and varied forms of its stems, and not unfrequently nor unjustly for its beautiful and splendid flowers. Many kinds of Cacti are readily miltiplied by the simple process of amputating a leaf, or part of a flat, or angular stem, which, by partially

drying for ten days or so, and then placing it on the surface of moist and warm earth, send out roots freely, from which plants are speedily formed. From what has come under our own observation respecting the propagation of Cacti, we should be very much inclined to believe that every bud, or cluster of spines, if carefully removed from some depth in the stem, and afterwards dried slowly, and then placed on the surface of some moist and warm substance would throw out roots and become a plant. We hope our Correspondent will favour us with the promised article on the habitats and localities where this interesting family usually abound.—ED.]

ON THE CULTURE OF THE AURICULA.

BY WM. WOODMANSEY, OF HARPHAM.

Facts you know are stubborn things, and what I am about to relate are facts, and nothing but facts. It is said in history, that our forefathers, the ancient Britons, wore no clothing, except a skin, or something of the kind, wrapped round the waist, the rest of the body being exposed to the weather. Whereas, at present. we find our countrymen wrapped up from head to foot-not only in the depth of winter, but in the very height of summer. And, after all, I cannot find out that they either live longer, or enjoy better health than did their forefathers. And thus much for overtendering and over nursing. This argument, I think, is very applicable to the Auricula, the original species of which is a native of the rocky heights of the Helvetian Alps, which vary from 14,000 to 14,600 feet in height; and, consequently, lie buried in snow almost nine months in the year. Hence, I conclude, that if any plant may be reckoned hardy, the auricula is decidedly so. But, probably from the want of a sufficient knowledge of its history, habits, and hardiness, the cultivation of this most beautiful flower is rendered as tedious and as expensive as the tender exotic, whose habitat is under the equatorial sun. The tollowing is the treatment I pursue, and, therefore, recommend:-During the last winter, I put my plants into a cool frame; the snow covered them up three feet thick, and at the breaking up of the frost, they came out as green and healthy as if they had been in the best conservatory in the kingdom, and bloomed as beautifully as any I ever saw, while those belonging to a friend of mine, who kept them staged all the winter, were nearly all killed with the frost. I also had Hugh's Pillar of Beauty all the winter before in the open

ground, without the slightest protection, and it bloomed equally as well, and exactly at the same time, as one belonging to the abovenamed friend; and that, too, notwithstanding that he lives nearly thirty miles further to the south than myself, and kept his plants housed into the bargain. This I take to be an indubitable proof that the auricula is perfectly hardy, and can only be rendered tender by too much nursing. When my plants multiply, and become too numerous for my frame, I intend to turn out, into the open ground, a plant or two of each kind, without any protection. and try them against those that are protected by the frame. have a few plants of the green, grey, and china-edged ones, besides several selfs and alpines. Also a bed of seedlings that have not yet bloomed. These last, of course, are left bare to the weather. The others are cultivated as follows: -I pot them in August, in well-rotted manure, with a small portion of loam and sea sand, and water them freely till they get established. In October I put them into the frame for the winter, after stripping them of all the dead leaves. In February, I top dress them with the above compost, and, as soon as the flower stem is up, I thin out the tips, leaving them according to the strength of the plant. I occasionally, at this period, give them a little liquid manure instead of water, and as soon as they begin to show colour, I shade them from the sun and screen them from the rain.

By this simple treatment, I have had some of my plants as large as small cabbages, completely covering the pots with the most beautiful foliage, (especially the one called Moore's Jubilee), and, by keeping them from sun and rain, I have had them in beautiful bloom for three weeks. In potting, I take off all the offsets that are rooted, and plant them in small pots; and if the parent plant seems to need it, I cut off a part of the lower end of the root, which causes it to strike new roots; and then I have notqing more to do, except to supply them occasionally with water,

Harpham, Dec. 20th, 1838.

[The Auricula has been a favourite flower, and cultivated from time immemorial; and, therefore, its culture may be supposed to be familiar to all. Yet, although this may be supposed to be the fact, it is really far from being so. We are, therefore, glad to have an opportunity of inserting the above remarks. Theory is far more pleasing to the mind, beautifully harmonious and complete in all its parts, than the most

successful practical operations ever can be. Yet the preceding communication, being the result of diligent, attentive, and practical observation, is infinitely more valuable than the most elaborate, yet eloquently written communication. Mr. Herbert thinks the auricula a common variety with Primula helvatica, nivalis, and viscosa, supposing them to be varieties of the same species. The Primula auricula is found wild ou the Alpiue regions of Italy, Switzerland, Germany, and Astracan. This is the first genus which ought to engage the attention of those who enter upon the study and cultivation of Alpine plants. The species are numerous, and the properties of the genus are general hardiness, fragrance, and great neatness, both in the foliage and the flowers. We need hardly say that the primrose, in all its varied hues of beauty and poetical association, belongs to this favourite genus?"].

ON THE MANAGEMENT OF GREENHOUSE PLANTS, ANNUALS, &c., WITH MISCELLANEOUS REMARKS.

BY T. H. MOORE.

The greenhouse at the present season, will present to the devoted amateur, a scene, both of instruction and amusement. It is now by dint of careful cultivation, that he must lay the foundation of his summers enjoyment, and his autumnal display. During the present month, the greenhouse will excite more than an ordinary degree of interest: the greater part of greenhouse plants require re-potting: propagation will again be commencing in its usual variety: watering and ventilation more especially require prompt attention—neglect being often attended with fatal consequences, and strict attention to cleanliness and neatness, is no less necessary, nor attended with less beneficial results, than during "dismal dark December," when

" The sapless branch

- " Must fly before the knife; the withered leaf
- " Must be detached; and when it strews the floor
- "Swept with a woman's neatness."

In stating that the greater part of greenhouse plants require shifting at this period, I feel that some explanation is due. It was not my intention to recommend, or countenance anything like a periodical routine of culture; or to insinuate that all plants must be shifted in the month of February; on the contrary, I am persuaded that such a system cannot be practised with advantage; it is altogether opposed to the dictates of reason, and common sense has, I believe, long ago decided, that to keep a collection of plants in a high state of cultivation, it is necessary to study the indivi-

dual wants of each, and to take care that those individual wants are supplied in due time: but to return—all soft-wooded free growing plants which have been kept in small pots through the winter, will stand in need of a large one. The more robust of hard-wooded genera such as Melaleuca, Accacia, Polygala, &c., will in most cases stand in need of a shift; at the least they ought to be examined and then treated accordingly. The more delicate kinds, as Epacris, Corizema, Boronia, &c., should be repotted just previous to setting out in summer, but on this, I may offer a few remarks in due season.

In looking through the Floricultural Magazine, I find the following recommended to be done about the present season of the year: Dahlias (vol. 1, page 176); Roses, (v. 2, p. 3); Chrysanthemums, (v. 1, p. 103); Lantana, (v. 2, p. 201); Lobelias, (v. 2, p. 194-234); Salvia Splendens, (v. 2, p. 303); to be propagated: Calceolarias, (v. 1, p. 222, v. 2, p. 241); Thunbergias (v. 1, p. 246); Hydrangeas, (v. 2, p. 24); Pelargoniums (v. 2, p. 197, 246); to be shifted into larger pots, and the bulbs of Gesneria, (v. 3, p. 1); Gloriosa, (v. 1, p. 132); and Lilium concolor and longiflorum, (v. 3, p. 70); having been preserved in a dry state to be brought out and potted—tuberous rooted plants as Lychnus, should be similarly treated, using leaf-mould, and rottenwood, and light loam. Annuals sown in autumn, as Schyzanthus, Rhodanta, &c., should be kept near the glass, and abundantly suppiled with light and air, re-potting them as they require, and carefully attending to watering. Seeds of greenhouse plants, are best sown about this time—see the mode described at page 10 of the present vol.

Auricula should be sown, and the old plants treated with fresh surface mould, and a considerable degree of attention. Carnation layers should be potted; their culture has been published in former numbers.

It is advisable about the middle of the month, to commence sowing a few of the best annuals for flowering in pots, such as Rhodantha, Clentonia, Schyzanthus, and Salpiglossus, &c., the seed should be sown thereby in shallow pots of rich earth, and placed in a hotbed. When they have perfected their second pair of leaves, they should be pricked off singly into very small pots and kept near the glass, in a moist growing heat. They require

frequent shifting, and it is of some importance to decrease the heat and moisture gradually till they can be removed with safety to a warm greenhouse, where if supplied carefully with water, they flower beautifully. Rhodantha is recommended to be grown in equal parts, leaf mould and maiden loam. Clintonia in three parts, leaf mould to one part, light sandy loam. Schyzanthus seems to thrive in equal parts, sandy loam, leaf mould, and rotten dung. It is of the utmost importance that the leaf mould and dung be thoroughly decayed. Balsams, Globe, Amaranthes, and Combs, of which a few should be sown, require to be kept much longer in heat.

A selection of the half-hardy annuals should also be sown for early flowering in the open borders. The most economical mode is this, fill a quantity of small pots with light dry earth, and then drop 6 or 8 seeds in each, and lightly cover them with the mould. Then place them either on the curb of a pinepit, or in a hotbed frame, till they have formed their height; then remove them to a shallow frame where they will receive a slight degree of heat, and at the same time be placed near the glass; they will require to be thinned out leaving two to four plants in each pot, and in about a fortnight, remove them to a cold frame, which must be kept close at first, and well covered at night with mats, both of which should afterwards be gradually discontinued. In the early stages of their growth, use tepid water in watering them.

I have in preparation, some remarks on ornamental and rustic flower stands and vases, with a list of select plants to be grown in them, which, if acceptable, I will forward for the next number.

M.

[The remarks on ornamental and rustic flower stands, will be very acceptable—EDITOR.]

SYSTEM OF TRAINING PEACH TREES. BY MR. TINKER.

Agreeable to your request I send you the age and dimensions of the five Peaches and one Nectarine tree growing on the same wall at this place. I got them from the Nursery in 1826, one year old, or maiden plants, planted them against a wall to train, and removed them to their present situation in 1832, they are growing

d Royal George Peach Tree, growing at Byram, taken March 27th, 1894, 38 Feet long. Maiden Plant in 1696, zed by Goögle

upon a wall ten feet high, and the following are their respective dimensions from the extremity of their longest branches :- Royal George Peach, fortyfeet; French Mignon, thirty-six feet; Royal George, forty-two feet; Nectarine, seven years old, thirty-feet; Royal Charlotte Peach, forty-one feet six inches; Nobless, fortyfeet. Besides these five I have others equally fine for their I recommend training on the Sevmour system (that is, the system represented by the accompanying sketch), from the first not being very particular about every main shoot starting from the centre. If the tree be strong and vigorous, I allow two, and sometimes three shoots, to grow on each side during the same season; two from near the base on the last year's main shoot, the other from the centre; but if I find in the course of the summer that any

of the shoots are not growing with so much vigour as I would wish, I cut it off, and the corresponding shoot on the other side. It is of the greatest consequence to the growth and beauty of the tree, that all the principal shoots be of equal strength, and that each side have the same number of branches; also to keep them free from insects and mildew. To prevent injury from insects, I wash my trees over first before the bloom expands, with equal quantities of tobacco water and soap suds, mixed with a good portion of sulphur; I apply it with an engine, taking care that every part of the tree be made wet. The sulphur gives the wall a yellow appearance. but it soon wears off and leaves a portion in the shreds and bricks, which, on every occasion of warm sunshine, and when the insects spring into existence, is diffused around, and rendered de-By the attentive use of this applistructive of animal life. cation, I have never found any difficulty in keeping down. in all situations, the mildew, green fly, red spider, &c. The trees in these gardens were formerly very much infected with mildew, but since I have used the above wash, it has quite disappeared. Should the trees be attacked by the green fly, which seldom happens after being washed with the above mixture. I fumigate them with tobacco smoke, for which purpose I have a stack cover, or tarpauling, suspended from the coping of the wall. It is ten yards long, and requires about four ounces of tobacco to fill it; it remains on the wall till all the smoke is dissipated, it is then applied else where, if required, until the whole has been gone over. This is an expeditious, cheap, and effectual way of destroying them, but in case only a few shoots be attacked, I use a pinch of Scotch I rub off all useless wood buds as soon as possible from the bearing shoots, taking care to leave the one nearest the base for the next year's bearing shoot, without regard to its apparent strength. I stop all the shoots before the fruit to one joint. and the buds of the bearing shoot to two joints; and as soon as the shoot for the succeeding year has attained the length at which it will require to be pruned the following winter, I stop it also, and this is repeated as often as may be required throughout the summer, which causes it to make blossom buds down to its base, and throws the super-abundant sap into its proper channels—that is, into the fruit and main shoots. Tie the young shoots close at their base to the main one as soon as possible, otherwise they cannot be

brought down to look neat after the winter pruning, but will soon form a knob, which otherwise will not be the case; and above all, wash the shoots well every warm day after the fruit is set, until it is ripe, and keep them closely nailed.

The borders I make four-feet deep, ten or twelve wide, well drained with slates at the edge to keep the roots from entering into the walk. The compost consists of two-fifths of light sandy soil, two-fifths river side or warp* soil, one and half dung or rotten leaves, all well mixed; when the turning of the border is finished, it is left five-feet six inches deep at the back, to allow for settling: as I have found by experience, that borders of this depth settle onethird, I never allow the borders to be walked upon after they are turned. In cropping and cleaning them, I use boards at the bottom of the wall, and from these and the walks, most of the operations are performed without treading on the earth; by this precaution they are kept light, and the roots of the trees run freely. When I have occasion to remove any of my trees, and this I frequently do without regard to age or kind, I begin close to the walk, digging down a spade breadth to the very bottom of the border, then with iron skewers pick out all the soil carefully from amongst the roots, and by turning them aside, the loose soil is removed back, and this is proceeded with, until the whole of the roots have been cleared from the soil. Having previously thrown off the new-made border, six or eight inches deep and six feet wide, if for large trees, they are then placed against the wall; the whole of the roots being carefully and equally distributed on the surface before any of them are covered with earth; in doing this, they are laid parallel with the walk, in order as much as possible to prevent their entering the unprepared ground beyond the border. They are then covered one inch deep with fine rich compost, and upon this is laid three or four inches of good rotten dung, and thus made with the border soil; the whole is then well watered, and I ought to mention, that during the whole of these operations, I use short boards for standing upon. By proper attention to watering in dry weather, I have had trees make more wood, and swell finer fruit

^{*[}The warp soil here referred to is an exceedingly rich loaming earth, being a deposition of decayed vegetables, and the lighter particles of earth carried by the floods and mountain torrents from the adjacent hills to the fenny ground in Lincolnshire.—ED.]



the first season after planting, than they had previously done. I consider it of the greatest advantage to fruit in general, when it is not necessary to remove them, to dig down at the edge of the border as before described, and to take up the whole roots carefully to within three-feet of the wall. The border should then be turned over, there should be added to it a little fresh soil and dung, it must then be left level with the old surface when mixed; the roots on the top are then laid on the surface and covered as directed above: this will allow for settling, and if well done, it will quite renovate the trees, and make them bear better than before. To prevent the roots being exposed to the air a longer time than is necessary, whatever addititional compost is intended to be added, is laid on the border before any of the operations are commenced. This is my mode of treating fruit trees, and should it prove of the least assistance to you, I shall be very glad.

J. TINKER.

Byram Garden Nursery, 1837.

[Through the kindness of Mr. Reid, gardener to T. W. Beaumont, Esq. Bretton Hall, near Wakefield, and by permission of its author, Mr. Tinker, we are enabled to lay the above communication before our readers. As will be seen from the date of this communication, it was written in March, 1837, and sent to Mr. Reid as a private letter, containing, however, full and ample directions for the treatment of wall trees, with especial reference to training and the formation of the borders. Mr. Tinker is an excellent practical gardener, and, therefore, well qualified to form an accurate and just estimate of the system which he has so fully described, and by practising which he has been unprecedented in his success, not only in the undescribable symmetry and beauty of his trees, but in the quantity and quality of their produce.

The accompanying sketch is by no means a flattering representation of the trees. We saw them some years ago, and, although then in a young and vigorous state, with clean, healthy, and straight shoots, trained with mathematical precision, yet for order and neatness, they far exceeded anything of the kind we had ever seen. Some there are, we doubt not, who could readily point out to us grave defects in Mr. Tinker's system of training, nor would we defend it as the ultimatum of perfection; but this much we can say, it does approach nearer to perfection than any other system with which we are acquainted. It is infinitely superior to the system in general use, and a great improvement on that described in various periodicals some years ago, by Mr. Seymour. What we regard as an improvement in Mr. Tinker's system over that of Mr. Seymour's, consists in the arrangement of the main branches. The latter leads off, or trains the whole of his lateral branches from an upright or center shoot; and in the event of any one of these failing, its place cannot be supplied by raising or lowering the adjoining branches. In Mr. Tinker's improved system, as we should term it, this objection is provided for, as will be seen by a reference to the accompanying engraving. Any of the branches might be removed without presenting any difficulty, as to filling their places with some of the nearest branches.

In a recent letter from Mr. Tinker, he informs us that since he wrote the above communication, he has found that "the laterals that have borne fruit, require to be pruned short across in autumn, and ought by no means to be slipped below the heel of the young shoot that is intended to bear fruit the following season, otherwise it prevents the sap flowing freely, often causes the heel buds to fail, and thereby adds to the length of the spur, which it is, of course, desirable to guard against. The sketch from which the accompanying engraving was taken was made

floe sketch from which the accompanying engraving was taken was made four years ago, and the trees differ only in being now larger; they are, still equally beautiful.

Our excellent friend and correspondent is one of the best practical gardeners that we know. He is not only unsurpassed, but is rarely equalled in the culture of Peaches, Nectarines, Apricots, Vines, Orange trees, Camellias, Chrysanthemums, with a variety of other objects, all exhibiting evident proofs of Mr. Tinker's skill as a gardener. When we last saw his Orange trees, they were in the extreme of health and beauty, and bearing abundant crops of fruit. At some convenient opportunity, we hope our friend will favour us with a few remarks on the Orange Camellia, or in fact any thing Mr. Tinker may think proper to send.—Bs.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Chorozema elegans, or Latifolia. -- This promising plant is a native of the Swan River Settlement, and was raised from seeds imported thence, by Robert Mangles, Esq. in 1837. In habit C. elegans somewhat resembles C. cordata, but the leaves are much larger and more holly-like than those of the latter species. It is also of a much denser growth than C. cordata, which is apt to become rather thin and straggling. This elegant plant has not, to our knowledge, yet flowered in this country; but if it prove to be as much superior to C. cordata, in the size and colour of its flowers, as it undoubtedly is in its habit and foliage, it will be one of the greatest acquisitions to the greenhouse which has been, for many years, introduced. Although, as we have said, C. elegans is not so rambling as C. cordata, it is, nevertheless, a free grower, and in eighteen months from the cutting, will, with judicious management, form a splendid specimen. This lovely plant will thrive well in light sandy peat, with a small portion of light rich loam. We are not aware that either of the specific names of elegans and latifolia, which the plant at present bears, has been authorised by any accredited Botanist.

Verbena procumbers.—Introduced to our collections from Philadelphia, where it was originally raised from South American seeds. The foliage resembles that of V. Tweediana, but the plant is of creeping habit like V. pulchella, rooting at every joint. The colour of the flower is stated to be the nearest and best approach to a blue of any of the species of this favourite genus yet introduced.

Gloxinia grandiflora.—Also imported from Philadelphia, where it had been raised from South American seeds. This species is said to resemble very much, in foliage and general habits, our old G. caulescens; but to differ from that species in being altogether of a stronger and more robust growth, the foliage and flowers being nearly double the size of those of G. caulescens. The colour of the flower also is blue, but of a much lighter shade than G. caulescens. This species will prove an acceptable addition to one of the showiest of our stove genera.

Azalea Indica macrantha rubra, and Azalea macrantha purpurea.—Two beautiful hybrids, partaking of the nature of A. phœnicea, and remarkable for the very large size of their showy flowers.

Azalea Indica Georgiana.—This variety appears to be of very tender and delicate habit, and liable to lose its leaves like the old A. Indica. The colour of the flower approaches a bright scarlet. It is certainly one of the finest hybrids of this beautiful and generally admired genus yet raised.

Azalea Indica, foliis argenteo marginalis.—A seedling apparently from A. Indica alba, to the foliage of which it bears a close resemblance, the leaves, however, are somewhat longer and narrower, and margined with a distinct line of silvery white. We are not aware that this singular sport has yet flowered, but its beautiful foliage attracts much admiration. The London nurserymen are indebted for these choice hybrid varieties of Azalea Indica, to the perseverance and skill of Mr. Cunningham, of Edinburgh, who is already celebrated for the many splendid varieties he has raised from Rhododendron arboreum. All the Azaleas noticed above are at present very scarce and proportionably high priced.

Lobelia ignea.—We have as yet received comparatively but very few of the numerous beautiful perennials which are known



Camellia Law renceana

to inhabit the more temperate regions of Mexico, and most of which would prove of great value to the flower garden. During the past year, however, two highly ornamental plants have been received from that quarter, both of which will, we think, be acquisitions of no ordinary value and interest to that department. We mean Salvia patens, and the subject of the present notice, Lobelia ignea. In habit and mode of growth this species resembles L. fulgens, and throws up a flower spike to the height of four or five feet. The flowers, which are much larger and more distant on the spike than those of L. fulgens, are of a bright scarlet crimson colour. This very desirable species was raised by Mons. Mahoy, of Liege, from whom it has been received by Messrs. Low & Co., of Clapton, who will, doubtless, be, able to supply plants of it in spring, at a moderate price.

Acacia kermisina.—A specimen of this curious species was exhibited on a recent occasion at the Horticultural Rooms in Regent-street, by Mrs. Lawrence. In habit it resembles A. affinis, but the leaves are longer and more delicate even than those of that beautiful species, while they partake of the colour of A. discolor. The flowers are of a dingy brown colour, and possess long protruding anthers, in the way of a Melaleuca. We have not been able to ascertain the habitat of this desirable plant, but have every reason to suppose it to be a native of the West Indies.

REFERENCE TO PLATE XXXVI.

CAMELLIA LAWRENCIANA, Mrs. Lawrence's Camellia.

NAT. ORD. CAMELLIEÆ. CLASS MONADELPHIA POLYANDRIA.

The Camellia is a noble and beautiful plant. The evergreen and glossy foliage, the ever varying varieties resulting from its sportive character, the elegant, the rich, but delicate colours exhibited throughout the genus, the abundant and certain production of blossom, together with its comparative hardiness, render the Camellia one of the most deservedly and universally admired plants to be found in British collections. The variety now under consideration is new and highly prized, and very properly bears the name of one of the most zealous and influential of Flora's fair patronesses.

What individual ornament of our greenhouse or conservatory can vie with a perfect bloom of the double white Camellia, so simple, so unassuming, and yet so perfectly chaste and beautiful. And then the Camellia is of very easy cultivation, and when planted out in the conservatory border, or retained in pots, it is managed with as little difficulty as any greenhouse plant we have. Some persons indeed complain that they cannot bloom their Camellias freely,

and this is simply because the new wood which produces the bloom buds has not been sufficiently ripened. Camellias should be kept in a rather high temperature from the time they commence growing, until they have fully ripened their wood; if persons will follow this suggestion, they will not in future have to complain of their Camellias not producing their bloom freely. We are indebted to Messrs. H. Low and Co., of the Clapton Nursery, for the opportunity of figuring Camellia Lawrenciana the splendid variety represented in our plate. Messrs, Low and Co. inform us that this beautiful Camellia was raised by an Amateur, from whom they purchased the stock, and named it in honour of Mrs. Lawrence, of Drayton Green. We cordielly recommend this beautiful family to the attention of our readers, and for their information we annex a list of the very choicest varieties.

LIST OF CAMELLIAS.

DIDL OF CRIMINATIO.				
Double White	Flavescens	D on kelaarii		
Striped	Triumphans	Tricolor		
Chandlerii *	Colvillii	Ochroleuca		
Fimbriata	Palmer's Perfection	Reticulata		
Eclipse	Rawsiana	Candidissimia		
Punctata	Imbricata	Sasangua rosea		
Delicatissima	Nigritifolia	Sweetii		
Picturata	Fordii	Lepida		
Crononata	Frankfortensis	Cælestina		
Eximia	Gilesii	Rosea		

The single Red Camellia was the first of the genus brought to this country. It is a native of China, and was for some years cultivated in the stove. It was introduced about the year 1739, by Robert James Lord Petre. It was, however, figured and described by Petiver, about the year 1702, under the name of Thea Chinensis, and shortly afterwards by Kampfer, who named it Trubaki. It would appear that for some time after this, it was either lost or neglected, as it is not noticed in the eighth edition of Miller's Gardener's Dictionary, published in 1768.

It was not until near the close of the last, and beginning of the present century, that the culture of the Camellia began to attract attention; and forty years ago, none of the double varieties had been seen in this country, in a living state. The double white and double striped were the first that were introduced, having been brought from China by Captain Connor, for John Slater, Esq., of the India House. Two years afterwards, the double red by Sir Robert Preston, Bart. of Valleyfield. From that period no additions were made until the year 1806, when the variety known under the name of Lady Hume's Blush, was imported for Sir Abraham Hume, Rart., and the Waratah or Anemone flowered for the Royal Gardens at Kew. In 1808, the myrtleleaved red and middlemist's red were added by importation to the Kew collection, and the semi-double red to that of the Hon. Charles Greville, at Paddington. These, with the red peony flowered, and the pompone or Kew blush, which are supposed to have been introduced about the year 1810, the former for Sir Charles H. Turner, Bart., and the latter for the Kew collection, are all that were published previous to the year 1812. Shortly after this, the white peony flowered, or as it is sometimes called, the white Waratah and Atrorubins, or Loddiges red came into notice; the former is supposed to have been imported to Kew in 1810, and the latter by Messrs. Loddiges. In 1816, the fringed white discovered itself in the Nursery of Messrs. Colvil. A very fine variety was imported for Charles H. Turner, and was named Webank's white, in compliment to the gentleman by whom it was introduced In 1820, the Blush peony-flowered was imported for the London Horticultural Society; and Involuta for Lady Farnborough, and the variety known as Kent's Hexangular, by Capt. Rawes. In 1821, the variety known by the name of Le Blane's red Camellia was introduced; and in 1824, Rawes's striped Waratah; during the same year, three other varieties were added, and were named crimson shell flowered, Park's rose-striped, and Sabin's white. The above are a few of the earlier varieties, and were introduced previous to the year 1827; since that period, the Camellia has received much greater attention, and the seminal varieties have been so greatly multiplied, that any descriptive account of them, would, at present, be unattended with advantage.

Those who possess but a limited share of Botanical knowledge, are aware that the genus Camellia, according to the authority of modern Botanists, comprehends the tea tree; indeed, so nearly do they approach to each other, not only in Botanical affinity, but also in their properties, that the leaves of several varieties of the Camellia, as well as those of Olia fragrans, are some-times mixed with the tea. In this country, the first mention that is made of tea, is in an Act of Parliament, passed in 1660, by which it appears to have been charged with a duty of eighteen pence per gallon, when drunk in public houses. In September of the following year, Pepys says I sent for a cup of tea, (a Chinese drink), of which I had never drank before. In the year 1664, the East India Company sent as a present, two pounds two ounces to Charles the Second. The price at this time was about two guineas per pound, and the tea would appear to have been procured from the Continent, as the first importation by the Company was made in 1669, when two canisters were received containing 150 lbs. Even at this period, it does not seem to have been regarded as an article of commerce, the first order for tea having been sent to Madras. The following singular terms in which this order is conched, show the estimation in which tea was then held. "In regard, tea is grown to be a commodity here, and we have occasion to make presents thereof to our great friends at Court; we would have you yearly send us five or six canisters of the very best and freshest, that which colours the water in which it is infused, most of a greenish complexion is best esteemed." In the year 1678. nearly 5,000 lb. were imported, and this quantity, which would now be sold at one large shop in London, appears to have overstocked the country: for we find only 140 lb. imported altogether during the six following years. At the commencement of the present century, the annual importation of tea amounted to about 20,000 lb. and about twenty years later, the importation reached a million pounds per annum, and at the close of the year 1836, the annual importation had increased to nearly forty six million pounds.

NOTICES OF NEW PLANTS.

TRIFOLIUM HYBRIDUM. Mule white Trefoil, or tall Dutch Clover. | Bot. Mag.

NAT. ORD. LEGUMINOSÆ. CLASS DIADELPHIA DECANDRIA.

As an agricultural plant this may be interesting, but its habit is too coarse and the flowers are too small and colourless to become a favourite in the flower garden. It is a native of a large portion of the continent of Europe.

CALANDRINIA DISCOLOR, Discoloured Calandrinia. r Bot. Rea.

NAT. ORD. PORTULACEÆ. CLASS POLYANDRIA MONOGYNIA.

This is a showy biennial, with lance-shaped leaves and large rose-coloured flowers, growing about two feet in height, and flowering from the end of June till destroyed with frost in the Autumn. It has flowered in the Horticultural Society's Garden, London, and was introduced from the Berlin Botanic Garden, about three years ago. It resembles C. grandiflora in appearance, but is much larger, and more robust in every way. It is recommended as a half-hardy annual, and if raised in the autumn, we have no doubt it would succeed well as such. It is further stated, that this is one of the greatest ornaments of the flower garden, continuing to flower from morning till night. The other species of this genus are remarkable for their blossoms closing during cloudy or showery weather, but the one now under notice is an exesption to this rule. 2 R

LEYCESTERIA FORMOSA, Beautiful Leycesteria.

Bot. Reg.

NAT. ORD. CAPRIFOLIACE ... CLASS PENTANDRIA MONOGYNIA.

This is a robust half shrubby plant, so hardy as to endure the severest frost. We have grown it during the past summer, but cannot subscribe to the description given of it by Dr. Wallach, in designating it a "charming shrub." In Nepal and Kamnoon, it is found at an elevation of 8,000 feet above the plains. In proceeding with this notice, we are glad to find that we can fully accord with the following remarks. "From the account given of this plant by Dr. Wallich, and from the bright scarlet colour represented in that eminent Botanist's Planto Asiatic Variores, as belonging to the bractias, it was expected that this would prove a most ornamental addition to our gardens; but it must be confessed it does not justify that expectation." It is thoroughly hardy, and requires to be grown in a cool and shady situation.

MARSHALLIA CÆSPITOSA, Tufted Marshallia.

Bot. Mag.

NAT. ORD. COMPOSITÆ, DIVISION SENECICIDE. CLASS SYNGENESIA ÆQUALIS.

A perennial plant, of but little beauty or interest in a Floricultural point of view; in appearance resembling the Salsafy or Scorzonera. The flowers are of a light purple or rose colour. It is a native of North America.

PHACELIA TANACETIFOLIA. Tansy-leaved Phacelia.

NAT. ORD. HYDROPHYLLE ... CLASS PENTANDRIA MONOGYNIA.

This is a native of California, a hardy annual, and was introduced to the Horticultural Society of London by Mr. Douglas. It was also discovered by Mr. Drummond in Texas. The flowers are of a pale purple, and the foliage resembling that of the Tansy, as the name would imply.

LEONOTIS NEPETAFOLIA. Cat-mint leaved Leonotis.

Bot. Mag.

NAT. ORD. LABIATE. CLASS DIDYNAMIA GYMNOSPERMIA.

A plant of ordinary beauty. It is an herbaceous perennial, with upright stems, large and coarse opposite leaves, and bearing dense whorks of small searlet flowers. Six species of this genus have been described by Bentham, all natives of Africa, but the present species is found also in various parts of the continent of India.

SOLANUM HERBERTIANUM, Mr. Herbert's Night Shade. [Bot. Reg. NAT. ORD. SOLANACEÆ. CLASS PENTANDRIA MONOGYNIA.

The figure before us represents a plant nearly allied to the potatoe, being one of the genus. It is, however, less valuable, on account of its requiring to be grown in the stove. Its habit is dwarf, seldom attaining more than two feet in height; the foliage is entire, of a light green and very handsome, with dark purple flowers. It is in the collection of Messrs. Young, of Epsom.

STATICE PUBERULA. Downy leaved Canary Thrift.

Bot. Mag.

NAT. ORD. PLUMBAGINEÆ. CLASS PENTANDRIA PENTAGYNIÆ.

The whole genus Statice is ornamental, and deserving of cultivation. It derives additional interest, too, from the accession of Arboria to its species. The latter was for some time a plant of much interest, and of high value; but has now become less rare, and its merits more justly estimated. S. puberula is a native of the Canary Islands; it requires the protection of the greenhouse during winter, but when planted in the open border during summer, it grows and flowers in great perfection. The whole of this genus is readily propagated by cuttings of the roots, and, we have no doubt, this was the plan adopted by our friend Mr. James Cunningham, Nurseryman, Cumeby Bank, Edinburgh, who was the first to possess a stock of S. Arboria.

BRASAVOLA MARTINIANA. Dr. Von Martin's Brasavola. [Bot. Reg. NAT. ORD. ORCHIDACE & EPIDENDRIE. CLASS GYNANDRIA MONANDRIA.

The genus Brasavola is at once recognised by the round rush like foliage

The flowers of this species are white, the lower lip broad, and beautifully fringed. The one now under consideration was imported from Berbice by Messrs. Loddiges. B. cuculatum and B. amazonica are the only other species

yet known with a fringed labellum.

"All the Brasavolas yet described by Botanists now exist in this country, with the exception of B. subulifolia, a fine species, inhabiting Nevis, with very slender subulate leaves, and the B amazonica above named. The former might easily be procured, the latter is beyond the reach of ordinary travellers." The species of this genus hitherto described, have for the most part been found on the trunks of trees, or on prominent rocks, with little soil for their roots, and fully exposed to the sun. In a state of cultivation they, therefore, require to be placed in sandy peat earth mixed with pieces of small grit stone, and sparingly supplied with water, especially when in a dormant state.

LILIUM LANCIFOLIUM ROSEUM, Rosy-spotted lance-leaved Lily.

[Paxton's Mag.

NAT. ORD. LILIACEÆ. CLASS HEXANDRIA MONOGYNIA.

This is one of the lilies which have excited so much interest in the floral world during the last twelve months, and are still so much in request. Five, seven, and even ten guineas are readily obtained for a flowering bulb. They are natives of China, and were first brought to Europe by Siebold, and were some years cultivated on the Continent, butmore especially in Belgium and the surrounding neighbourhood. During the last two years they have been imported into this country by several Loudon Nurserymen; and a few plants are now scattered over the country, but they are by no means plentiful, nor are they likely to become so for several years. Their culture is of the very simplest kind; in common with most other bulbs, they grow freely during summer, in any moderately light sandy loam, and require protection from frost only. They die down during winter, and require to be kept in a dormant state, and the soil between wet and dry. A cold frame is the most anitable situation for the bulbs during winter.

There are several varieties of this plant, such as Lilium speciosum album, L. speciosum punctatum, L. speciosum rubrum, and the variety in question, roseum. When all these have been cultivated and flowered, and are, therefore, better and more generally known, it is probable the characters by which these varieties are at present distinguished, will be found too slight to deserve respect. The variety now under consideration, as the name implies, is of a light rose colour, marked with deep rose coloured spots, and is described as being of a much more robust habit than speciosum, and the flower also larger. This plant flowered in the collection of the Clapton Nursery, during August last. Mr. Low has imported a considerable number of these bulbs

from the Continent.

XEROTES LONGIFOLIA. Lony leaved Xerotes.

Bot. Reg.

NAT. ORD. JUNCACEÆ. CLASS DIŒCIA HEXANDRIA.

This is a grass like plant of no beauty, a native of Van Dieman's Land. Dr. Lindley says "its leaves are so hard and tough, that it deserves enquiry whether they will not yield a fibre capable of being manufactured into cordage. I know nothing in the unmanufactured state that promises better, by the powerful resistance offered to the force employed to break it." It is a half bardy herbaceous plant.

STANHOPEA TIGRINA, Tiger-flowered Stanhopea.

WAT. ORD. ORCHIDACEÆ § VANDEÆ. CLASS GYNANDRIA MONANDRIA.

Dr. Lindley justly remarks, that in Stanhopes, there is scarcely any dissimilarity in the foliage, and it is only in the flowers where their distinctive characters must be sought. The one now under consideration is thus represented by Dr. Lindley. "The flowers of S. tigrina are larger and handsomer than any other known species, even exceeding those of the magnificen S. devonionsis."

This magnificent plant flowered with Messrs. Rollissons, of Tooting, in August last. It is stated, on the authority of Mr. Bateman, that it was introduced to this country by Messrs. Low, of Clapton. Its culture is said to be the least difficult of the genus. The flowers are delightfully fragrant, resembling a mixture of Melon and Vanilla.

PLANTS NOT FIGURED IN THE Bot. Reg.

PLEUROTHALLIS PICTINATA.

A singular species resembling P. prolifera, obtained by Messrs. Loddige, from Rio Janeiro. The flowers are sea green.

MAXILLARIA FOVEATA.

Introduced from Demerara, by Messrs, Loddige, nearly allied to M. squalens.

LÆLIA ALBIDA

Its colour is quite a novelty in the genus, all the other species bearing rose-coloured or lilac flowers. It has the graceful appearance of L. sutumnalis, from which it can scarcely be distinguished in habit.—" The flowers are about two inches across, sweet scented, and excepting a bright yellow streak down the centre of the lip, and a few crimson dots at its base, are of a uniform semi-transparent white." The Dr. says, a figure will be given in the Botanical Register.

BOLBOPHYLLUM FUSCUM.

A native of Sierra Leone, and nearly related to B. tetragonum. The flowers are a dull chocolate colour. Imported by Messrs. Loddige.

QUEKETTIA MICROSCOPICA.

A curious little plant, with the habit of a Pleurothalis, and nearly allied to Rodroguezia. Although this is only a few inches high, and has no attractions for the vulgar eye, it is in some respects, the most interesting known, if examined microscopically.

QUEKETTIA VANDEÆ.

This is another species of the same genus, named in honour of Edwin J. Quekitt, Esq., F.L.S., an excellent Botanical observer, to whom Dr. Lindley says, he is indebted for much valuable information.

CYCLOSIA MACULATA.

A Mexican orchidaceous plant, which appears to be the mormodes of Bateman, in the Botanical Register, 1838.

PLEUROTHALLIS STRUPIFOLIA.

Imported from Rio, by Messrs. Loddiges. Dr. Lindley says, "This is the most remarkable species of the genus I have yet seen. Its leaves are like leather thongs, and full eighteen inches long. The flowers are dull purple and white, with patches of short deep purple hairs on the inside of the lower sepals."

CŒLOGYNE OVALIS.

Communicated to Messrs. I.oddige, by Dr. Wallich, where it has recently flowered. It is nearly allied to C. fimbriata.

MAXILLARIA PORRECTA.

A native of Rio Janeiro. The flowers are pale buff, not very ornamental.

MAXILLARIA MICROPHYLLA.

Resembling Maxillaria Depii, but larger. It is a native of Columbia, found growing in the ground, not on the trees. Not showy.

MORMODES PARDINA.

A fine species, with primrose coloured flowers, spotted with reddish purple in many parts, and very fragrant. Very robust, being thrice the size of M. atropurpurea.

RIFRENARIA LONGICORNIS.

The flowers are orange spotted with brown, having a raceme very much like B. aurantiaca. A native of Demerara, and in the possession of Mesars. Loddige.

TRICHOCENTRON IRIDIFOLIUM.

A very small species from Demerara, with pale yellow flowers. In the collection of Mesers, Loddige.

ACTHERIA OCCULATA.

A native of the Mauritius. The plant is about a foot in height, with small whits and green flowers. This is synonymous with the well known genus Goodyera. This is also in the collection of Messrs. Loddige.

LIPARIS PENDULA.

This is nearly related to L. longipés. A native of the continent of India, and obtained from thence by Messrs. Loddige. The flowers are green, in a pendulous raceme, and about a foot in length.

INOPSIS TERES.

A native of Demerara. The flowers are small, delicate, and of a lilac colour.

PLEUROTHALLIS STENOPETALA.

Small, the flowers pale green, and of an agreeable scent. Native of Brazil, and in the collection of Messrs. Loddige.

BOLBOPHYLLUM CUPREUM.

Flowers copper colour, and scented like Valerian root. Native of Minella, obtained from thence by Messrs. Loddige.

MISCELLANIES.

A new feature, and we think an improvement, is introduced into the first number of the Botanical Register, for the present year. In addition to the descriptive notices given in this Magazine during the past, there is now added to the notices of plants a short account of such new books or new discoveries, &c., in Horticulture and Botany, as are of sufficient importance or interest to deserve to be recorded. In order to gain space for this addition, a little alteration in the typographical arrangement has been found necessary. Under this head, therefore, we have the following books noticed:—

GRUNDZUGE, &c. A new theory of Vegetable Fertilization, by STEPHEN ENDLICHES. A pamphlet, Vienna, 1838.

In this pamphlet the opinion is taken up that the pollen of perfect plants, and the spores (or seeds) of Cryptogamic plants, are essentially the same, and "that the pollen does not possess any specific fertilizing influence, but that it is the seed of a plant in its youngest condition, and that it strikes into the stigma its roots, the tips of which eventually reach the ovule, and there complete their evolution." This may be ingenious, but somewhat fallacious. We are, it is true, in the habit of regarding a seed as a perfect plant in embryo; but if the pollen must be considered as the seed, we shall, at any late, require a term to express our meaning, when we speak of these embryo plants.

If it can be shewn that the pollen of male flowers is capable of reproducing the species, without the aid of the female organs, there would then be a clear obvious reason for transferring the term seed, and applying it to the pollen or dust produced on the male flower. We are aware that the pollen of many plants may be preserved for months, without losing its vital or fertilizing principle; but without the agency of the stigma or female organ, it is of no more value in the reproduction of its species, than the ordinary dust from under our feet.

The following is a list of the standard Dahlias for the ensuing season, agreed upon, with their prices, at Meetings of the principal Dahlia growers, held at the Crown and Anchor Tavern. This we consider a most excellent arrangement, though somewhat defective in detail. The meetings were respectably and numerously attended, but too local in their composition. If the effects of climate and situation be alike on the Dahlia throughout the country; if no particular kind be differently affected by the varied situations and climate in which it is grown; then the arrangements of the meetings in question were all that could be desired. Since this is not the case, perhaps the better way would be for provincial Societies throughout the country to correspond with the Metropolitan or Central Society, and by furnishing a statement of the comparative merits of the leading flowers, the central committee would be enabled to take a more satisfactory, accurate, and extended view of their duties, and all parts of the country would be benefitted and fairly represented.

The Flowers without prices are essential to all Show Collections, though, having been out a considerable time, they should not be charged higher than

2s. 6d., or 24s. per dozen.

	٤.	D.	ı	s.	D.
Ansell's Unique	5	0	Robert Burt	7	6
Neville's Hope	5	0	Clio Perfects	3	6
Royal Standard	5	0	Countess of Torrington	3	6
Bowling-green Rival	7	6	Dodd's Wellington	3	6
Ovid	7	6	Titus	5	0
Ne plus ultra	5	0	Zolermio (Prestley's)	3	6
Rienzi	5	0	Rival Sussex	5	0
Conductor	7	6	Knight's Victory	3	6
Cambridge Hero	5	0	Grant Thorburn	3	6
Duchess of Devonshire	5	U	Rosetta	3	6
De Vere	5	0	Brown's Corinne	3	6
Clark's Julia	7	6	Hon. Mrs. Ashley	5	0
Egyptian Prince	7	6	Julia	3	6
Fisherton Champion	5	0	Vanguard	5	0
Glory of Plymouth	7	0	Watford Surprise	7	6
Horwood's Defiance	5	0	Castandi	5	0
Marquis of Lothian	5	O	Jeffries' Theodore	3	6
Rival Granta	5	0	Man of Honour	5	0
Lady Mallet	3	6	Gaines' Queen Victoria	5 '	0
Kinnaird	5	0	Striata Formosissima	5	0
Flower	5	0	Taylor's Rival Purple	5	0
Sondes	10	6	Bark's Pre eminent	5	0
Knockholt Rival	7	6	Forsyth's Royal Victoria	5	0
Metropolitan Yellow	5	0	Hero of Sevenoaks	5	0
Buonaparte	5	U	Lord Morpeth	5	0
Miss A. Broadwood	3	6	Hon. Stuart Wortley	3	6
Foster's Eva	5	0	Washington	5	0
Essex Rival	7	6	Columbus	3	6
Cook's Donna Anna	10	6	Newick Park	5	0
Meade's Lewisham Rival	10	6	Tower of Sarum	3	6
Protheroe's Virgin Queen	10	6	Topaz	3	6
Trentfield's Elizabeth	10	6	Bowman's Premier	3	6
Oxford Rival	5	0	Miss Johnson	7	6

Berkshire Champion	8.	D.	9. D.
Mrs. Bucknell	3	6	Coronation 10 6
Callions	3	6	Beauty of Hyde Vale 10 6
Calliope	3	6	Groom's Mont Blanc 10 6
Beauty of Marsh	.5	0	Lord Clements 3 6
Beauty of the North		6	St. John
Parson's Rival	5	0	Countess Sheffield
Beauty of West Riding	7	6	Countess of Liverpool
Mungo Park	5	0	Conqueror of Europe
Countess Cornwallis	5	0	Elphinstone's Purple Perfection
Mitchell's Duchess of Kent	7	6	Marquis of Northampton
Adonis	3	6	Le Metellus
Brunette	3	6	Goldfinder
Smith's ditto	5	0	Neville's Hope
Dido	5	0	Suffolk Hero
Emperor of Scarlets	3	6	Bontishall
Springfield Major	3	6	Prima Donna
Mackett's Helena	5	0	Etonia
Lilac Perfection (Wells's)	5	0	Brown's Ion
Lady Walpole	5	0	Beauty of Kingscote
lord Folkestone	5	0	Middlesex Rival
Lady Dartmouth	3	6	Ruby
Lord Byron (Allman's)	3	6	Addison
——————————————————————————————————————	3	6	Beauty of Bedford
Mrs. Colt	3	6	Sarah
Mrs. Glenny	5	0	Thomson's Rival
Marchionesa Lansdowne	10	6	Symmetry
Queen of Beauty	3	6	Dodd's Mary
Birmingham Victor	3	6	Mary Queen of Scots
Cheltenham Rival	3	6	Don Carlos
Miss Scroop	7	6	Diadem of Flora
Hedley's Perfection	10	6	Squibb's Purple Perfection
Splendidissims	3	6	Springfield Rival
Smith's Standard	5	0	Reliance
Richard the Third	3	6	Hero of Wakefield; or Springfield
Bright's Scarlet Perfection	5	0	Rival
Sulphurea Perfecta	3	6	Triumphant
Sally	3	6	Rosca Elegans
Pandora	5	0	Marquis of Anglesea
Anlaby (Forsyth's)	5	0	Rival Purple
Glory of Sheveling	3	6	Godwin's Rival Hero
Here of Navarino	5	0	Mount Pleasant Rival
Phylanthus	3	6	Lilac Rival
Sir Francis Burdett	3	6	Sir R. Harland
Lady Wenman	7	6	Spectabile (Jefferies)
Rambler	10	6	Summum bonum (Girling's)
	10	6	Sir H. Fletcher
	10	6	Warminster Rival
Hardy's Bridesmaid	7	6	Sir Humphrey Davy
Ingestrie Rival	10	6	Miss Lockwood
Lindsay's Perolla	7	6	Maid of Judah.
	10	6	
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DIED.—On the 22nd of dropsy, Mr. George Penny, of the Milford Botanical and Floricultural Nursery, near Godalming, Surry. As a successful cultivator of plants, the name of Penny will stand high in the records of floriculture. The lovers of splendid plants are indebted to Mr. P., as being the first cultivator of the magnificent Statice Arborca. It was transmitted to the Milford Nursery, by Philip B. Webb, Esq., from, we believe, the Canary Islands. Several other plants of some pretension, have been introduced through the same channel.

The Anniversary Dinner of the Members and Friends of the Metropolitan Society, held at the Crown and Anchor Tavern, Strand, on the 17th of January, was numerously and respectably attended by Nurserymen, Gardeners, Amateurs, &c. from different parts of the country. Mr. Glenny, who it appears is the permanent Chairman on these occasions, entertained the company admirably, and kept them together till a late hour. There were nearly two hundred sat down to dinner. Meetings of this kind, which bring so great a number of persons together, all immediately or remotely interested in the cause of Floriculture, cannot be without a most beneficial effect on Gardening.

We would again beg to draw the attention of those of our friends, more especially Mr. Willison, of Whitby, who are cultivators of the rose, to a request of "Surreyensis," at page 144 of the present volume. In this committy the culture and propagation of the rose is but little known; and although the climate of Great Britain be less favourable to this object than that of France and other parts of the continent, by skilful culture and the introduction of new varieties, by means of hybridizing and attentively observing their habits and ever varying characteristics, the rose is a family well deserving attention. Mr. River's book on the rose will greatly assist whoever may desire to prosecute their inquiries on this subject. A notice of this work will be found at page 98 of the present volume.

We were a short time ago informed that a gardener, near Huddersfield, had succeeded in ripening the fruit of Fuchsia fulgens, and was of opinion that its size and agreeable flavour warranted him in thinking it probable that it might some day be cultivated for its fruit. Mr. Tillery, gardener to his Grace the Duke of Portland, has also fruited it, and says the fruit resembles, both in size and colour, an ordinary-sized May-duke cherry, but rather oblong in its shape.

Poinsettia pulcherrima, figured and noticed at page 41, in the second volume of this Magazine, we think is deserving of particular mention, as one of the most splendid shrubs in cultivation. Its flowering season is during the gloomy winter months, and the gay and gorgeous display of the scarlet whorls of its floral leaves, present a cheering and most pleasing contrast to the sombre hue of nature generally at this season. Nor is its gay appearance its only recommendation. It possesses another property, far less common, in the permanency of its flowers or floral leaves. They seldom continue in flower less than two months, and sometimes as long as three. A plant now in flower in the stove conservatory, in the Sheffield Garden, has twenty five terminal spikes of these splendid floral appendages. The shrub is planted in one of the beds, is much branched, and upwards of six feet in height.

In answer to the query of J. P. we should say, that the usual season for the planting of tulips is now over; but they may still be planted, and with every probability of success, if the ground in which they are planted be moderately dry. A light loamy, but sandy soil, is generally preferred, and found to suit the tulip better than any other.

Much depends on situation, but we should have no doubt of herbaceous plants generally succeeding, although removed and planted during the winter months, providing the weather be open and free from severe frosts. But T. S. had better consult some of his practical neighbours on the subject.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXIV.-MARCH, 1839.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE OF HORTZIA MEXICANA.

BY A FRIEND TO HORTICULTURE.

In an early number of the present volume of the Floricultural Magazine, a figure and description was given of Hortzia Mexica-It was then described as an exceedingly beautiful and desirable plant for the flower border, during summer, and for the greenhouse, &c. In consequence of this description, I was induced to procure a plant, which I treated with all care, and was successful in the fullest sense of that term, in cultivating it so far as the growth of the plant itself was concerned; but was altogether unsuccessful in my endeavours in causing it to produce a flower. At the time it was planted out in spring, it was a small plant, but when autumn had arrived, it had attained a large size. It was then shifted and planted in the greenhouse, and here I again experienced no little difficulty; and, indeed, I completely failed in preventing the ridged foliage from withering, which gave the plant a most unsightly appearance. All this I had to endure, and my plant has not yet produced any flower, but is pushing numerous buds and fresh leaves, so that I have now the great probability of my attention and care being well repaid, for I have learned that the description to which I have alluded is correct, and not at all exaggerated. The object of the above remarks, is, therefore, to impress upon the minds of the votaries of Flora, this important lesson, that patience, as well as perseverance, is an indis-

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pensible qualification in the mind of every successful florist. My maximis this—takenothing for facts calculated to produce results of a particular nature, and independent of practices, the effects of which depend so much on the manner in which they are performed. A practice of a system of culture may be described with great accuracy, and by the same operator repeated with equal success for many years; but experience has often demonstrated, that the same practice adopted and performed from written description, is attended with different results in the hands of different operators.

A FRIRND TO HORTICULTURE.

[We quite concur in the spirit and object of the preceding remarks. W did describe the Hortzia as a desirable plant, and one that would amply repay for the care and trouble bestowed on its culture; nor are we at all concerned, lest our description should be found inapplicable to the plant. It has been grown here for twelve months, and we experienced some disappointment in growing it throughout the last summer, without flowering. It is now, however, showing abundance of bloom, and we have no doubt, will fully warrant all that has been said of it.—ED.]

AMERICAN CRESS, AN EXCELLENT SPRING CRESS. BY A FRIEND TO THE COTTAGER.

About the middle or towards the end of September, sow under a sheltered wall, with a south or south-west aspect, some seeds of American cress, cover it light with a little leaf mould, or finely pulverized earth. This sowing will, if all circumstances be favourable, come in for spring use and during winter, and will be found a valuable article as a winter salad. The American cress is very hardy, and of all other salad herbs obtained at the least expense. Indeed, I know of no plant at all equal to this in hardiness and excellence; and those who possess a few square yards, need never be without salad on all seasonable occasions.

A FRIEND TO THE COTTAGER.

[We would just observe, that we know of no plant as a salad herb presenting so many desirable properties, as the one in question; and all who are fond of salad, will find this one of the most prolific and easily grown of the tribe. There is another very simple and very interesting mode of obtaining salading through the winter, namely—that of placing small pots in windows or mantle pieces of living rooms, filled with earth, and sown with the seed of common cress and mustard. Such a practice is not only interesting in a very high degree, to witness the growth and developement of the embryo plant; but is at the same time an object

of utility. In such a case, the mode of culture required is exceedingly simple, and something like the following plan might be adopted:—
Take small garden pots, five or six inches in diameter, place a small piece of pot over the hole in the bottom, this will allow the water to escape; the pot should then be filled with common garden earth, to within half an inch of the top; the seeds should then be sown on the surface of the earth; they require no covering of earth, but to have the top of the pot govered with a piece of glass, paper, a common tea saucer, or any thing at hand, merely designed to keep the air from the seeds until they have germinated, they may then be exposed to the light and air as much as possible. The pots will require to be kept in a saucer of water; they must not be watered from the surface, enough will rise from the saucer, by capillary attraction, to keep the earth sufficiently moist—ED.]

NOTES BY THE EDITOR.

MADE DURING A VISIT TO SOME OF THE LONDON NURSERIES.

JAN. 16,—Clarendon Nursery, Paddington.—The principal business of this Nursery consists in rearing plants for furnishing—that is lending out plants, when in flower, at so much per dozen, and supplying hawkers for Covent Garden and other markets at a low price. The plants are chiefly geraniums, myrtles, American plants, hyacinths, and the like, remarkable for their fragrance or their showy flowers.

The extensive and excellent establishments of Messrs. Henderson, Pineapple-place, and the Wellington Nurseries, St. John's Wood, are engaged in the same line of business. Their custom depends almost entirely on the London market during the spring and early part of the summer. Their object is, therefore, to cultivate whatever is ornamental and of rapid growth. At-the Clarendon Nursery, their hyacinth pots were covered with others of the same size, the bulbs were, therefore, excluded from the light, and by this process the flower stems are drawn up at the same time with the foliage. The varieties of geraniums which they approve of in the above Nursery are the Mc. Donald, Ann Boleyne allumum, and the horse shoe. Among the roses for forcing one called the Spong is preferred; it is a variety of the province kind. The common monthly rose and the dwarf variety or minor, these are forced in large quantities.

At Henderson's Nursery, Pineapple-place, a double white variety of the Chinese primrose was pointed out to us. This is interest-

ing and curious, as a variety; but as it cannot be perpetuated by seeds, it is comparatively valueless. Also Neerium thyrsiflorum, with very long and ample foliage; small plants are offered at 5s. each. Here, as on former occasions, there is still a large stock of Cinerarias. The following are some of the finest varieties: C. Hendersoniana, charge 10s. 6d. C. pulchilla and C. formosa, 1s. 6d. each. The colour of these is a dark purple, approaching to blue. We noticed here covers for cold frames, constructed of matting, and others of strong canvas, fastened on portable frames, and laid over with coal tar. They are lighter, and in every way as capable of resisting frost as boarding, and, of course, much cheaper. As a mode of economizing labour, we were struck with a simple but effectual practice for cleaning and sweetening garden pots when empty, namely, by setting them on the ground singly, with their mouths upwards, and, by the sizes being placed together, they presented a neat and orderly appearance. They, of course, become clean by the operation of rain, frost, &c.

Wellington Nursery, St. John's Wood.—The plants in the greenhouses had the surface of the earth in the pots covered with a rich yellow loam; this is found to prevent moss growing in the pots, and gives the whole a clean and neat appearance. In this nursery large quantities of free-flowering geraniums are annually raised for the London market, and for furnishing. The plants are struck from cuttings in the autumn, and planted in a rich and sheltered situation in the open ground the following summer. Towards autumn they are again lifted and repotted, and are mostly sufficiently large for flowering and for sale the following spring. We also found the Gesneria elongata grown and forced here in large quantities, and when in full flower it is an exceedingly beautiful plant, and admirably adapted for this purpose.

Mr. Pearson's Nursery, Hampstead Road.—This Nursery is associated with the name of Money, the late proprietor of this establishment, and familiar, no doubt, to many persons who are engaged in the culture of the grape. The late Mr. Money was a most zealous as well as successful cultivator of the vine, and to him we are indebted for that excellent variety known by the name of Escolata superb. It is a black grape, valuable on account of its hardiness, which, in ordinary seasons, ripens well on an open wall out of doors. Mr. Pearson intends continuing the culture of

these grapes, and towards the autumn of the present year he will have a large stock of vine plants for sale. The collection of vines which Mr. Money left is still kept up; probably a more extensive assortment than is to be found in any other establishment in this country, whether public or private, and those who wish to provide themselves with good and approved sorts, will find here a most extensive assortment to select from.

In one of Mr. Pearson's greenhouses we observed a very interesting species of Lambertia, brought to this country by Mr. Mangles, probably from the Swan River.

Mr. Donald's Nursery, near Woking .- This is an old and extensive establishment, occupied with general nursery stock, such as forest and fruit trees of all kinds. The ground here is admirably adapted for nursery purposes, especially for raising seedlings. But by far the most interesting object in the Woking Nursery is the Arboretum. On each side of a wide promenade or walk, three hundred and sixty six yards in length, is a very extensive collection of hardy trees and shrubs, arranged according to the natural system. With the exception of Messrs. Loddige this is the only public nursery in this country that we happen to know where a complete and scientific arrangement exists. Among these we noticed several scarce and valuable varieties of trees and shrubs: of the former we may mention a beautiful specimen of Qurquis acquatica, 16 feet in height, and furnished with spreading branches to the base. Mr. Donald has a large number of seedling Rhododendrons which, as hybrids, exhibit marked distinctions, and among which we think it is very likely there will be many new varieties of interest.

Within the last few years the greenhouses have been extended, and, besides houses appropriated for the exclusive culture of the Camellia, there are others for the growth of mixed greenhouse plants, such as heaths, geraniums, orange trees, and many of the newer kinds of hard wooded New Holland and Cape plants. There is also a small stove, which contains a good assortment of orchidaceous plants. It is heated on Kewlie's principle, and Mr. D. finds it to answer well. Mr. Donald is one of those few exceptions occasionally met with amongst nurserymen, who, though advanced in years and otherwise placed in easy circumstances, appear to be fully aware of the importance of keeping pace with the im-

provements of the day. This is fully exemplified by his arboretum, every specimen of which is neatly and legibly named; his orchideous house and collection, though small, is rapidly increasing. A new impulse will be given to all this from the facility of communication with the metropolis by the London and Southampton Railway passing the end of his nursery, and the Woking station being within a mile of his residence.

ON THE CULTURE OF THE RANUNCULUS, MORE ESPECIALLY WITH THE VIEW OF OBTAINING LATE FLOWERS.

BY G. T.

To those acquainted with the culture of the Ranunculus, it will not be necessary to say that it prefers a rich loamy soil, rather stiff; but my object is more to draw attention to the blooming of this plant, at various seasons of the year, rather than to describe its general culture. It is not in every situation, nor by every mode of treatment, that the Ranunculus can be bloomed well at any season; but I have found it succeed well at all seasons by planting a few roots every fortnight or three weeks. The Ranunculus is easily injured by worms; and, to prevent this, I water the beds frequently with lime water, and, as soon as the leaves appear above the ground, I apply liquid manure from cow dung. This enriches the ground, and gives a vigorous and healthy appearance to the plants, especially the foliage. As soon as the blooms approach near to opening, I keep them carefully shaded from the sun. In this way I keep up a bloom of this very beautiful plant throughout the summer, even into the autumn months of September and October.

Paisley, Jan. 16th, 1839. G. T.

BY JOHN M'EVOY.

In the Number of the Floricultural Magazine for this month, I read with pleasure and instruction a highly interesting communication from your valuable and scientific Correspondent, W. R. Lowe. "Suggestions on the Use of Nitre as Manure;" wherein

ON THE FORMATION OF ASPARAGUS BEDS, WITH AN ACCOUNT OF SOME EXPERIMENTS AND A SUCCESSFUL METHOD OF DESTROYING THE WIRE WORM; ALSO ON THE USE OF NITRE AS A STIMULANT IN THE CULTURE OF ASPARAGUS.

he shows in the clearest manner, 1st, its chemical and component parts, and 2ndly, the natural affinity which nitre, as part of , the food of plants bears, &c. And he concludes his remarks by calling on the readers of the Floricultural Magazine to experimentalize and record their results. It would, indeed, be presumption in me to attempt to follow your able Correspondent in the lucidation of the theoretical part of his essay. But, Sir, as one fact will bear greater interest with general readers than a thousand theories, however perspicuous they may appear to the practised chemist, perhaps you will permit me respectfully to lay before your subscribers a few facts of which I have been an eye-witness. A few years ago, being under-gardener in the employ of the late Right Hon. Henry Joy, (Chief Baron of the Exchequer), near Dublin, we assisted to make a new plantation of asparagus; and as it may prove useful to some of your numerous readers, I will relate as briefly as possible how the work was performed. marked out the intended beds three feet six inches wide, and the alleys between each bed two feet six inches. We removed the soil from each bed three feet six inches deep, and laid a dry rubble drain along the centre of each, communicating at one end with a main drain; over each drain were laid stones, brick-bats, bones, and roots of trees, to the depth of eight inches, over which was laid a layer of faggot wood, and upon this about six inches of hot-bed manure; then each bed was filled ten or twelve inches higher than the surrounding surface, (to allow for settling), with the following compost, which had been prepared the previous autumn, by several turnings: one-half loam, the top spit of an old sheep-walk, one-fourth decomposed pond manure, and the remaining portion of road scraping and sharp river sand. work was performed during frosty weather, in January. By the middle of March, the beds were sufficiently settled to admit of planting. The earth had also sunk nearly level with the surrounding surface; about two inches of the soil was removed into the alleys, and the beds raked level; the garden line was strained one foot two inches from the side, the back of a spade was run lightly along the line, so as to leave its impression in the earth. line was then removed to the opposite side, and strained as before, leaving a distance of fourteen inches from row to row. were two years old, and were laid one foot from plant to plant in

the line, spreading out the roots regularly, the whole being covered about three inches deep with soil. The soil from the alleys was removed fourteen inches deep, and was filled to about four inches of the surface, with rotten dung; and this was again covered with earth, and in due season planted with cauliflowers, and certainly by far the largest and finest cauliflowers I ever saw, were produced from it. The asparagus grew vigorously the first season. But, the July of the following year, being dry, many of the stems began to wither, and in searching to ascertain the cause, we found under the soil the stems three parts eaten by the wire worm, and around some of the plants we found as many as a dozen insects. Nichol, Mawe, and many other authorities were consulted, in hopes of finding a remedy; lime, soot, and many other applications were tried, but all were of no avail, the season was very hot, and we were grieved to witness the all but total destruction of our hopes of a flourishing first plantation. To account for the plants not being touched the first season, I can only conjecture that the worms did not move in quest of other food, until the vegetable fibre on which they feed in the loam, was decomposed. The worthy gardener spared no trouble in seeking information, and was so fortunate as to meet with a scientific agriculturist, who had been similarly plagued in his department with the same little pest, who told him the only remedy he found, was by sowing a stated quantity of nitre, on his soils so infested in spring. asparagus plantation consisted of six beds, each about forty-five feet long; and the gardener the following April, had about one pound and a half of powdered nitre sown over each of five beds, reserving the sixth for experiment. The result was, that in the five beds so sown, we never after observed the slightest trace of the wire worm; but, quite different with the one not sown. Early in summer, the stems began to assume the same withered blighted appearance of the previous year; as the summer advanced, every day made a visible change for the worse, the gardener ordered the bed to be sown the same as the others, and as the weather was dry, we washed the nitre in with showers from the garden engine, and the plan completely stopped the ravages of the wire worm; and the following year some stalks of the asparagus measured from seven to eight feet in height. JOHN M'EVOY.

Leweston House Gardens, Sherborne, Dorsel, December 8th, 1838.

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TWe deem the preceding communication deserving of notice, on account of the whole being the result of practical observation. In the preparation of asparagus beds, the most important of all considerations is to render the subsoil dry, the next is proper earth, and in the formation of the beds as noticed above; all these appear to have been duly attended to, and we think the directions given there, may be followed, and the results attended with complete success. We would also observe with regard to the use of nitre or salt, applied either as a solution on the surface, or incorporated with the compost intended for the beds, that both asparagus and seakale are likely to be greatly bened fited by a free use of it; both are natives of Britain, chiefly found on the sea shore, and are, therefore, in their native situations, under the stimulating influence of the saline particles, carried from the sea by the operation of high winds and local causes. In nearly all situations and under all circumstances, it is advisable to sow asparagus in the situation where it is intended to be matured. The strong fleshy roots of this plant suffer more or less in transplanting them from the seed bed; nor can this be prevented by the most careful treatment. It is a fact worthy of notice, that asparagus may be transplanted with advantage during the month of June or July, when the plants are in the most vigorous growth. This is readily accounted for by their having strong fleshy roots, and if cloudy humid weather can be selected for the operation, we are inclined to think it is the most suitable season for the purpose.-ED.]

ON A SUCCESSFUL MODE OF PREPARING MUSHROOM SPAWN. BY W. APPLEBY.

To any quantity of fresh droppings of horses from the stable or mill track, add equal parts of the dung of cows, deer or sheep, with a sufficient portion of light loam or road sand, to cement it together, and mash well the whole together, with a little water.

Now spread the mixture on the floor of an open shed, and let it remain till it becomes hard enough to be formed into bricks, which being done, set them on their edge, and frequently turn them till the whole is half dry, then with a dibble, make three holes in each brick, and insert into each hole a piece of good fresh spawn, about the size of a walnut. After this is done, let the bricks remain a few days to settle.

When thus prepared, clear the surface of a piece of ground, three feet wide, and of length sufficient for the quantity of bricks made, on which lay a covering of dry horse dung, six inches thick; then form a pile, placing the bricks in rows one upon another in open order, the spawned side uppermost, till they gradually diminish from three feet at bottom, to a single row at top; now

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cover the pile with a small portion of warm horse dung, fresh from the stable, sufficient in quantity to diffuse a slight heat through the whole of the pile of bricks; when the spawn has spread itself through every part of the bricks, the dung must be taken from the bricks, and they may be laid up in a dry place for use. Mushroom spawn in this manner, will preserve its vegetative powers for many years, if kept dry.

W. APPLEBY.

Byram Gardens, Yorkshire.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Epacris Copelandi.—A very fine variety, producing flowers about the size of those of E. impressa, and of a pure scarlet colour. In habit and foliage it appears to be intermediate between E. impressa and E. paludosa; while it is quite as abundant a flower as the former much admired species. The Horticultural world is indebted for this truly beautiful species of a justly esteemed genus, to the collection of W. Copeland, Esq., of Layton, by whose gardener, Mr. A. Kynoch, it was raised from seed ripened on Epacris impressa. The brilliant colour and free habit of this plant will render it a general favourite, and highly valuable, both for the purpose of exhibition, and as an ornament to the greenhouse and conservatory.*

Camellia Paxtoni.—A fine foliaged variety, raised from seed saved on C. Sasanqua rosea. The petal is handsome, and the colour a deep crimson. It has been named Paxtoni after Mr. Paxton, gardener to His Grace the Duke of Devonshire, by Messrs. Low and Co., in whose hands is the entire stock.

Camellia Amabilis.—This is a very beautiful Camellia, the flower being of the shape and size of C. myrtifolia, one of the prettiest of our old varieties, very double, and in colour a rosy red, with a pure white centre. This variety is at present very rare.

Camellia Philadelphica.—This fine variety, as also the preceding one C. amabilis, is an American seedling, it having been raised by a Mr. Landreth, an amateur of Philadelphia, one of the

* Since writing the above, we have been informed by Mr. Rynoch, that Epacris Copelandi is now in the possession of Messra. Low and Co., of Clapton.

most successful cultivators of this noble tribe in North America. C. Philadelphica, is similar in form to C. florida, of a very large size, and in colour a fine deep rose. We understand that our American brethren possess a variety which has not yet found its way to our country, and which is likely to raise their reputation as cultivators of the Camellia, to a very high standard.

Dendrobium Nobile.—This truly noble plant is at present flowering in a state of high perfection and beauty, in the Orchidaceous house of the Messrs. Loddiges. This is, perhaps, one of the most beautiful of the extensive family of Orchidacæ, with which the botanical world is at present acquainted; and we heartily wish that all who may be disposed to think lightly of Orchidacæ, could see this one plant in bloom; and we are certain it would be sufficient to convince them of their error in depreciating one of the most singular, interesting, and beautiful divisions of the vegetable kingdom.

Oncidium Cavendishi.—This rare and beautiful species is a native of Mexico, and is also at present flowering in the collection of the Messrs. Loddiges. In appearance, O. cavendishi differs very materially from all the other species of this lovely genus with which we are acquainted. The flower stem being short, stiff, and perfectly erect, instead of long, branching, and wavy. The flowers are large, and of a delicate creamy ground, beautifully spotted. We also observed in flower in the same valuable collection, Epidendrum macrochylum, a native of Cuba, and certainly one of the very handsomest of this numerous genus. Epidendrum lentigenosum, also rare and very interesting. Aspasia variegata, a rare and beautiful species. Cyrtochilum maculatum, a Mexican genus, nearly allied to Oncidium, from which it is scarcely distinguishable, either in the form and appearance of its foliage, pseudo bulb, or flower. Maxillaria macrophylla, a very free flowering, but rather dull coloured Maxillaria; and Dendrobium aureum, another rare and very beautiful species.

Corraa Rosea.—Another of the seedling varieties, raised by Mr. Milner, and as well as Milnerii and Cordata, is a valuable acquisition to our greenhouse collections. Like C. cordata, its foliage is smooth, and of a light green, about the size and shape of C. speciosa, but not exhibiting the rusty appearance of that species. The flowers, which appear to be produced freely, are about the

size of those of C. pulchella, and as the specific name imports, of a delicate rose colour. This plant is at present very rare; we understand that there are only about five or six plants in the trade, which have been purchased at the high price of five guineas each and as these plants are small, it will not very speedily fall to a moderate price.

Cacti. - This remarkable division of the vegetable kingdom, which like the Tropical Orchidacæ, has been so long neglected in this country, is now commencing to assume the rank and importance in our collections, to which the originality and singularity as well as beauty of its members, fully entitle it. A few of the Cereus and Epiphyllum tribes, which are remarkable for the brilliant flowers which they produce, have long been general favourites; but we are alluding now to the Sections, Mammillaria, Melocactus, Echenocactus, and a large portion of the Section Cereus, which are distinguished rather for their peculiar shape, and the varied colour and position of the spines with which they are clothed, than for the beauty of their flowers. A large importation of these interesting plants has been received at the Clapton Nursery, from one of the Collectors of that Establishment, stationed in South America. The collection consists chiefly, with the exception of a large quantity of Melocactus Communis, and Pyrimidalis, of Cereus, among which are several which it is supposed are new to the country. We particularly noticed several plants of a strong erect Cereus, most densely clothed with long, compressed, and brilliantly white spines. Some of the plants were from four to five feet long, and apparently in most excellent condition. But the most interesting species in the importation appeared to be a Cereus, which is likely to prove a rather formidable rival to the justly admired C. senilis. The specimen we saw, was about ten inches long, of a clear light green, with yellow spines, and clothed from the base to the summit with a substance resembling the finest wool, and of the purest white. The contrast between the vivid green and yellow, covered as it were with a delicate net work of pure white, is remarkably pleasing. We believe this specimen to be perfectly nnique.

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REFERENCE TO PLATE XXXVII.

MONIA MAKOYA.

HAT. ORD. RANUNCULACEÆ. CLASS POLYANDRIA MONCGYNIA.

We have been favoured with a sight of a drawing of this beautiful brid herbaceous Pæony, which was raised at the Botanic Garden at an. The flowers, which are large, are of a delicate white, with a yellinge at the base of the petals, while the inner petals appear as though the dand dashed with 6lood. This remarable hybrid also possesses a most bearing from Ghent, quite perfumed the room in which the box was sent. The stock of this elegant plant is now in the hands of Monstroy, of Liege, one of the most spirited and enthusiastic nurserymen in the fact of this country. Mons. Matroy asks twelve guineas for a small that of this rarity, which we believe is not yet in England.

extensive list of varieties of this highly ornamental genus deserves general patronage. They are not only among the most ornamental nets in cultivation, but several of them are also highly odoriferous; the now under consideration is an instance of this property. If this can be of the herbaceous varieties, how much more does the numerous kinds of Moutan or Tree Pæonia claim our attention. Under favourable cirnstances they sometimes attain the height of two yards or more, bearing sens of flowers, averaging nine inches in diameter. We scarcely know a that would more amply repay investigation, attentive culture, and agation, with the view of obtaining new varieties, than the one in question. With such of our friends, therefore, as are interested in the genus Pæonia Statice, we shall be glad to enter on a mutual exchange; and, in the first se, to receive duplicates of whatever there may be to spare, excepting the y common kinds. We would suggest to those who may think it worth to enter into such an arrangement, that they had better accompany ir communications with a list of those they possess. Ry attending to this, would enable us to send in return such only as were new to them.

NOTICES OF NEW PLANTS.

RRANIUM TUBEROSUM, VAR. RAMOSUM, Tuberous Geranium,
branching variety. [Bot. Reg.

NAT. ORD. GERANIACEE. CLASS DECANDRIA PENTAGYNIA.

This is an interesting species of geranium. It is a native of Naples, issue, and the Crimes; and in this country it is quite hardy, and grows freely any common garden soil. The habit of the plant is dwarf, seldom attains more than six or eight inches in height, and sending out a few branches stems, clothed with short stalked, deeply cut, and hairy leaves; the were are in twos and threes, rising from the axiles of the leaves: they harvely extend beyond the foliage, and are of a dark purple or rose colour. The roots are fleshy, and said to be about the size of a walnut, and "is proceed to be the first sort of geranium described by Dioscorides, the root which that author states, is sweet and eatable." The plant in question that suppose to have been raised, and is now cultivated by W. F. Strangways.

GUAIACUM OFFICINALE, common Lignum Vitæ.

Bot. Reg.

NAT. ORD. ZYGOPHYLLACBE. CLASS DICANDRIA MONOGYNIA.

Lignum Vitæ, is a name familiar to most persons, and few are unacquainted with the properties of the wood, so remarkable for its close and firm grain, its hardness, and unusual weight. By some it is asserted, that this tree grows to the height of forty or fifty feet; Dr. Mackfadyen, in his Flora of Jamaica, says, it seldom exceeds twelve feet in height: the well known drug, gum resin, or gum guiacum, is obtained from this tree. The modes adopted for this purpose are various, and Dr. Lindley quotes the former author, who describes some of the processes which will be found below. "The gum resin, known by the name of gum guiacum, is produced from this tree." "It has a slight degree of bitterness, and produces a smarting or burning sensation in the fauces; it dissolves entirely in alcohol, and partially in water. Oxalic acid is produced by treating it with nitric acid; it either flows spontaneously and concretes in tears, or is obtained by incisions. This latter operation is performed in May, and the juice as it flows out, is concreted by the sun. It may also be procured by sawing the wood into billets, and boring a hole longitudinally through the stem, so that when one end of the billet is laid on the fire, the gum flows readily from the other, and is collected in a calabash or gourd. It may also be obtained by boiling the chips, or rasping in salt water, when the gum will separate from the wood, and rise to the surface.

Lignum Vitæ, is the hardest and heaviest wood that is known, its specific gravity being 1,333; and owing to the singular manner in which the woody fibres cross each other in a diagonal form, so close and compact, that it cannot be split, and so hard, as to break like a mineral. The wood is used for a variety of purposes, such as the wheels and cogs of sugar mills; for pullies, bowls, and a variety of ornamental articles of furniture. For these purposes it is peculiarly well fitted in being susceptible of a very fine polish. The tree has now become very scarce in Jamaica and St. Domingo, large quanti-

ties having been cut down for exportation.

A few seeds of this plant were obligingly sent us a few years ago, by our friend Mr. Murray, of the Glasgow Botanical Garden; from which, we were enabled to raise several plants. We have known it for many years, and have always found it one of very slow growth. Our plants while quite young, were kept on a warm flue, over which was laid a covering of sand, one or two inches thick, which had the effect of preventing the plants drying rapidly, as would otherwise have been the case; in this situation the young Guaiacums made tolerable progress, their strong hard roots protruding through the hole at the bottom of the pot, and spreading in the sand. To prevent the necessity of breaking the roots which thus extended themselves beyond the pot, the plants were frequently turned out of the pot, and the long roots placed round the small ball of earth, which was again put into the pot, and set on the flue. By pursuing this treatment, the plants although kept in very small pots, continued to grow freely; and we believe the same method might be practised with all plants of this kind, having strong and hard roots, producing but few fibres, and therefore requiring but little soil. The foliage is of a dark glossy green, is pinnated, and the sowers are small and blue.

SENECIO CRUENTUS, Blood-red Senecio.

[Bot. Reg.

NAT. ORD. ASTERACEÆ. CLASS SYNGENESIA POLYGAMIA.

Many at least of those who read gardening periodicals, are familiar with the charms which the genus Cineraria present, on account of their exceedingly showy and beautiful flowers. As a proof that they are held in high estimation, it is only necessary to refer to the care and attention that has within these late years been bestowed on them, in raising new varieties, several of which have held the most prominent places among the gayest ornaments of the greenhouse. The parents of most of these varieties is the subject of the present notice, and Senecia maderensis or what is generally known as Cineraria aurita.

The parents which gave birth to this gay and now very numerous family,

are almost disregarded, and are but rarely met with. Dr. Lindley has, therefore, wisely availed himself of what may be now considered a rather rare occurance, an opportunity of publishing an original specimen raised from seeds imported from Teneriffe, by Philip Barker Webb, Esq.

Dr. Lindley proceeds to state, that Messrs. Webb and Berthellot, in their valuable account of the Canaries, recognize three principal modifications of climate, the lower, intermediate, and upper; statice arbore, the subject of the following plate belongs to the first, the nature of which will be explained,

Senecio cruentus belongs to the second.

This zone extends from 1500 to 5000 feet above the sea, with a climate valving on the north and south sides of the mountains. It is on the northern side S. cruentus is found inhabiting groves of Laurels, Myrica, Faya, Arbutus, Heaths, Ilex, and other Shrubs, among which the sweet Chesnut and downy leaved Oak are naturalized, and associating with species of Convolvulus, Ranunculus, Rubus, Geraniums, Strawberries, Violets, and similar plants. In these regions the air is moist, the sky is almost always overcast with clouds, especially during the day, while in the summer time, fogs and mists are common, and in winter, storms and heavy rains. There is no frost, and when snow falls upon the upper limits of the zone, it melts immediately. The surface of the country is broken up into valleys and mountains, and the soil although volcanic, is well covered with mould. How different this from ordinary notions of the climate of the Canaries; it is obvious that if plants from such situations are treated as if they were the natives of an arid and sun-backed land, no success could possibly be obtained. In fact its treatment is that of a greenhouse plant, having moderate temperature, and more moisture than usual when growing.

With scarcely an exception, the extensive natural order Compositæ is remarkable for its sportive character; and to this natural order, belong some of the most popular flowers of the present day. Need we mention the Dahlia, the China-aster, Coreopsis, Sun flower, and last but not least, the numerous and beautiful family of Chrysanthemums for autumn flowering; second, only in point of ornament to the Dahlia itself. A number of seedling plants of Senecio, or what is known by the more prevalent name Cineraria, were raised in the Sheffield Garden, about twelve months ago, and are now coming into flower, and such are the unstable properties of the genus, that nearly all of them exhibit characters differing either in habit, foliage, or the colour of the

flower.

STATICE ARBOREA, Tree Statice.

Bot. Reg.

NAT. ORD. PLUMBAGINACEM. CLASS PENTANDRIA PENTAGYNIA.

Mr. Lindley, has here passed an encomium on the genus Statice, to which we can very fully subscribe, and are glad of the opportunity of recording. "At one of those great meetings in the gardens of the Hortcultural Society, which have given so remarkable an impulse to the art of gardening, there was a specimen of this species (S. Arborea), from the nursery of Messrs. Lucombe, Fince, and Co, six feet high, and covered with large clusters of flowers, the brilliancy of whose blue flowers, neither precious stones nor metallic preparations could even approach; for which, a gold medal, an unusual mark of distinction, was awarded."

On various occasions we have noticed this plant; and we have now, for the first time, the opportunity of seeing a coloured figure, and description, by Dr. Lindley. It is about four years since it first made its appearance, and began to attract notice in this country; and, although it is now met with in the more select and curious collections, it is still a scarce plant. We have seen it in various stages of growth and magnitude; and when we said above, we fully subscribed to the Dr.'s commendation of it, as an ornamental plant, it will be better to state that we do so on the ground that we believe it to be one of the many plants that, when first introduced, are carefully treated, and the cultivation in every respect attended to; the results of which are usually all that could be desired in the production of rich and perfect foliage, accompanied with flowers as large and beautiful as the plant under any circumstances is

capable of bearing; and we believe statice arborea, when so treated, to be one of the gayest and most ornamental plants in cultivation; but we also believe that, except under the most judicious and skilful management, it will be found one of the least ornamental of plants.

The habit of the plant is that of a dwarf branching shrub, with thick fleshy stems, bearing, when in vigorous health, ample, entire undulating foliage upon short and thick foot stalks. The flower stem rises some height above the leaves, and is strong and angular, forming a large cluster of blue, purple, and yellow flowers. We believe the roots are thick and fleshy, and by these the plants, like most of the genus, may be readily and rapidly increased. The native locality of this plant has only been discovered in one situation.

The native locality of this plant has only been discovered in one situation. When Von Buch visited the Canary Islands, he found it in gardens about Orotava, and he believed it to be extinct in its native place; and it is only to be found on a few rocks called the Islets of Burgudo, which seem as if broken off from the coast of Teneriffe by some violent convulsion of nature, carrying with them, on their summits, a little earth, that this rare plant is found surrounded on every side by the ocean, and only a few yards removed from its surface." The rocks on which it is found are composed of volcanic tupa, basalt, and scorea, and sheets of lava in a state of decomposition, with a moist atmosphere, and a temperature varying from 60 degrees to 86 degrees Fahrenheit.

EUTOCA DIVARICATA, Straggling Eutoca.

[Bot. Mag.

NAT. ORD. HYDROPHYLLE E. CLASS PENTANDRIA MONOGYNIA.

This is a Californian annual, of dwarf habit, and in the humid atmosphere of the Scotch climate it attains a high degree of perfection, suffering only from the dashing rains throwing the soil upon its dwarf and trailing branches. In the southern parts of the kingdom, it is said to suffer greatly from the drought and warmth of the season. The leaves are rather large, but not numerous, oval, and hairy. The flowers are streaked and of a light purple, and appear to be very profuse. It was discovered in the country alluded to by Mr. Douglas, and flowered during August last in the Botanic Garden of Glasgow.

ONCIDIUM FORBESII, Mr. Forbes' Oncidium.

Bot. Mag.

NAT. ORD. ORCHDIEÆ. CLASS GYNANDRIA MONANDRIA.

This is a highly ornamental plant; in botanical affinity it approaches nearest to O crispum, but bearing larger panicles of flowers. The colour is a deep orange, bordered with yellow. It was discovered in the Organ Mountains, by Mr. Gardener, and by him transmitted to the collection of his Grace the Duke of Bedford, at Woburn Abbey, where, under the care of Mr. Forbes, it bloomed in October last. This is an honourable and just distinction conferred on Mr. Forbes, in being immortalized with the name of this very showy plant.

MONACANTHUS FIMBRIATUS, Fimbriated Monk Flower. [Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA

This is a curious rather than a beautiful plant, with long upright bulbs, from the base of which rises a strong ungraceful flower stalk, bearing a thin and irregular panicle of white and green flowers, remarkable for their long and singular fringe. It is a native of Rio Janeiro, and was also found growing on dry sand banks, beneath the shade of some low shrubs, about ten miles west from Pernambuco, in November, 1837.

Those who are familiar with the generally cultivated plant Monacanthus viridus, may be told that in appearance the latter resembles the former.

SOPHRONITIS GRANDIFLORA. Large flowered Sophronitis.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

A diminutive species, but beautiful, and bearing very large orangecoloured flowers. The pseudo bulbs are rather long and small, bearing a solitary short oval leaf, from the base of which is produced a single flower on a short foot stalk. The living plant was first introduced to this country by Mr. Gardiner, who found it in the Organ Mountains of Brazil, and sent it to this country in 1837.

MAXILLARIA TENUIFOLIA. Slender-leaved Maxillaria. [Bot. Reg. NAT. ORD. ORCHIDACEÆ § VANDÆÆ. CLASS GYNANDRIA MONANDRIA.

A singular, but not very heautiful plant. The pseudo bulbs are produced in succession one above another, being connected by a long leafy rhizoma. The flowers are spotted with scarlet, on a red and yellow ground. The species is a native of Mexico, found in the vicinity of Vera Cruz, by Theodore Hartweg, employed as a collector, by the Horticultural Society of London. It is said the researches and discoveries of this gentleman, during his mission to Mexico, "would have already produced most important additions to our gardens, had not his collections been unfortunately detained at Tampico, in consequence of the French blockade in that port." It is easily and successfully cultivated when tied to pieces of wood, being placed upon suitable soil, when the roots descend and secure themselves; or the piece of wood to which the plant is tied may be suspended to the roof of the stove, and frequently watered.

EPIDENDRUM VARIEGATUM. Variegated Epidendrum. | Bot. Reg. NAT. ORD. ORCHIDACEÆ § EPIDENDREÆ. CLASS GYNANDRIA MONANDRIA.

This is a pretty species, with small variegated flowers, remarkable for its fragrance, resembling that of the Lily of the Valley. It is a native of Brazil, and has been many years cultivated in the collections of this country. This is the Epidendrum Coriaceum of the Botanical Magazine.

PHALOCALLIS PLUMBEA. Lead-coloured Phalocullis. [Bot. Mag. NAT. ORD. IRIDACE. CLASS TRIANDRIA MONOGYNIA.

Cypellia Plumbea, of Lindley, Bot. Reg.

We can perhaps best convey an idea of this plant, by saying it resembles Marica Northiana, and the other species of the genus Sabiana and Cærules. The stem and foliage is upright; the former is unusually erect; it is slao leafy, and is terminated by a solitary flower, of a light pale purple colour. With numerous spots. It is a native of Mexico, and has been raised from seeds imported from that country. It has also been received from Mr. Otto, of Berlin, by Mr. Anderson, of the Chelsea Botanic Garden. The plant from which the drawing was taken, flowered in the collection of Mr. Herbert, of Spofforth.

Dr. Hooker says "This opportunity may be taken to record a remarkable new genus, of which a live specimen in flower has been sent to Spofforth, by Messrs. Loddige, imported, as is stated, from Valparaiso, being the first Cyrtanthiform plant found elsewhere than in South Africa.

PLANTS NOT FIGURED IN THE Bot. Reg.

OBRONIA RECURVA.

A curious little plant, a native of Bombay, introduced from thence by Messra. Loddige, and bears its densely imbricated green flowers on a short pendulous raceme.

OBRONIA WRIGHTIANA.

A native of Madras, and much like the preceding.

MEGACLINIUM OXYPTERUM.

An orchideous plant; a native of Sierra Leone, introduced from thence by Mesers. Loddige.

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PLUROTHALLIS BICARINATA.

An orchideous plant, imported from Brazil by Messry. Loddige. The flowers are of a greenish yellow, and the leaves five or six inches in length.

SCHOMBURKIA MARGINATA.

"This most beautiful orchidaceous plant, of which there is a figure in the Sertum Orchidaceum, t. 13, and of which so many plants were brought to England in 1834, by Mr. Lance, has at length flowered in the country with Thos. Brocklehurst, Esq., of the Fence, near Macclesfield, who recently imported it from Surinam."

EPIDENDRUM HORMIDIUM.

A plant of but little beauty, imported from Mexico by George Barker, Esq. of Birmingham. Dr. Liudley says he once thought the genus Epidendrum, very natural, but he now finds the species become so numerous and varied, as to suggest the idea of breaking it up.

BRASAVOLA GRANDIFLORA.

"Flowers of this, which is much the finest species of the Brasavola yet known, have been lately received from Honduras, by the Honourable W. F. Strangways. The limb of the labellum, which is white, is considerably larger than half a crown, and the sepals and petals are nearly three inches long. Those who have commercial relations with Brazil, should make a point of obtaining this beautiful plant from their correspondents. It resembles a gigantic specimen of B. awaosa."

PONERA GRAMINIFOLIA.

Is a plant of but little beauty, and is remarkable for its scabrous stems, so conspicuous in the elegant Arpophyllum spicatum, both being from the same country.

ARPOPHYLLUM SPICATUM.

"One of the most graceful and beautiful of the Mexican Orchidaces, it has recently reached England in a living state. The stem is slender, and a foot or a foot and a half high, with the sheaths as rough as shag-green leather." The flowers are in a dense spike, of a pale pink or purple. It is very rare, even in Mexico; and that it has only been seen at Sallepect, and that neighbourhood, growing upon trees. It is nearly allied to Epidendrum.

MISCELLANIES.

The Little English Flora, or a Bolanical and popular account of all our Field flowers, with Engravings on Steel of every description. By G W. FRANCIS, Author of the Analysis of British Ferns.

Three years ago, we were informed by Mr. Francis, of his intention to publish a work on British plants, and the small pocket volume, of 174 pages, now before us, is the result. In the preface we are told that, the object of the Author in preparing this little volume, "is, first to invite the young to an examination of the flowers of the field," by pointing out the beauties they are every where to meet with, that thus additional charms may be added to their rambles over the meads and commons; secondly, to induce a love for the science itself, by shewing that it is easy of acquirement, and that it yields instruction and delight, not merely in our after progress, but even from our first commencement of its study";—and, he adds, "these important purposes I have endeavoured to accomplish, by giving a plain, scientific, and

popular description of all our common wild plants, accompanying these with accurate steel engravings of every species, and introducing such anecdotes, remarks, and extracts, as the various subjects have suggested: thus striving to win rather than demand the attention, and to present these little favourites in the alluring garb with which nature has herself invested them, rather than in the mysterious and repulsive habit in which they are too often described, and to smooth as much as possible the study of Botany. The work is introduced by an account of the Linnen system, and the rules for collecting, drying, and naming plants in general, accompanied with a full glossary of all the terms employed, and terminates with three indexes, and an appendix of the more difficult tribes of flowering plants, and of all the cryptogamic orders."

Mr. Francis is well and advantageously known to the public, as the author of an Analysis of British Ferns, a small but invaluable work, and one which every cryptogamic botanist ought to possess. The Little English Flora is cast from a similar model, and is a pretty little book; but, in point of real usefulness, it will bear no comparison with the work before alluded to. engravings are too small to afford much assistance in identifying the species. This will be readily understood, when it is known that there are twenty engraving on each page, the size of which is only six inches by three. The engravings or plates are uncoloured, and represent two or three of the commoner species of each genera only. By this arrangement, the volume is small, and, we have no doubt, cheap. On this ground it can be recommended; and, while we regard it as by no means equal to a contemporary work on British plants, we mean the Florigraphia Britannica, in course of publication by R. Groombridge, 6, Pancer-alley, London, which contains large and accurately described coloured plates, of all the plants which are indigenous to Great Britain and Ireland, the Little English Flora will, nevertheless, be found of great assistance, more especially on account of the popular and pleasing style in which it is got up. As a specimen of this part of the book, we quote the following on the daisy :- "We might call this 'bonnie gem' by a thousand sweet names, and link it to every thing charming and innocent, for it is "the Child's own flower, the emblem of infancy itself." The poets abound with the most elegant thoughts on this little favourite. You of course, have read Burn's beautiful poem on "The Daisy turned up by the plough," and the two no less beautiful poems of Wordsworth, and the charming lines of Montgomery, and those by Dr. Leyden, and those by the Rev. W. Fletcher. But it is not its simple beauty and innocence which attracts our attention, it is one of the flowers which belongs to Flora's clock, it opens at sunrise and closes at sunset; and this curious property was known to belong to the daisy very, very long ago, and is the origin of its name. Chaucer calls it "the eie of the daie, and Ben Johnson calls it "day's eye," and Spencer says, "the little daizie that at evening closes." But I linger too long over this little darling; I confess I The following is, however, too beautiful to be omitted .-

> "Not worlds on worlds in phalanx deep Need we to prove a God is here, The daisy, fresh from Winter's sleep, Tells of His hand in lines as clear.

Fot who but He who arched the skies,
And pours the day springs living flood,
Wondrous alike in all he tries,
Could raise the daisy's purple bud."—Mason Good.

Sir,—I have been induced to trouble you on account of some difficulties presenting themselves in reading the article, page 218, vol. 1, of your Magazine, from the able pen of an "Admirer of Flowers," in reconciling it with some statements at page 116, vol. 5, of the Saturday Mayazine, where it is asserted that "animals are constantly consuming oxygen and evolving carbon; and at page 252, vol. 9, of the same work, where we find the following passage:—"Vegetation round the metropolis is abundant and luxuriant



in a very high degree, and this has been stated to arise from the immense quantities of carbon given out into the atmosphere by the burning of coal in London, as well as from the breath sent out from the lungs of the inhabitants," and it is stated in a note that "Allen and Pepys found by experiment, that the quantity of carbonic acid gas emitted from the lungs of a healthy person in twenty-hour hours, is about 40,000 cubic inches," whereas your Correspondent asserts that animals retain oxygen, but "return nitrogen," or exotic gas.

Not with a view of condemning your Correspondent, but not being myself unacquainted with chemistry, and, therefore, unable to decide which of those statements are wrong, I beg leave to submit it to the consideration of your scientific correspondents for discussion.

These observations may appear singular so long after the publication of the articles alluded to, but I had not observed the difference of the statements till a few days ago, not having had cause to examine the subject.

Your's respectfully,

February 1, 1838.

RUSTICUS.

[We have given insertion to the above remarks, first, because the subject is one of vast extent and increasing inquiry, and is intimately connected with Gardening and Horticulture; and, secondly, because chemistry is applicable, and, when applied in conjunction with animal and vegetable physiology, it is productive of effects unsurpassed in interest and importance to man, by the consideration of any question whatever, to which his attention has yet been called. We shall, therefore, feel glad if an "Admirer of Flowers," who is so conversant with this most interesting department of the science, will again resume the subject, and notice the queries of "Rusticus."]—ED.

On a recent visit to London, we called at the Horticultural Society's Garden, and were not less surprised than delighted, when shown the foundstion part of which was then completed, being the commencement of an erection, which will do credit to that wealthy and Honourable Society. In the February number of the Botanical Register, Dr. Lindley thus speaks of it, " all who are interested in the cultivation of exotic plants, will be glad to learn the Horticultural Society of London, are about to erect a most extensive Conservatory in their Garden at Chiswick. The range will be nearly 500 feet long, running east and west, with a front both to the north and south. The roof will be constructed entirely of iron, glazed with patent sheet glass, and will have the form of a gothic arch. The west wing rather more than 180 feet long, and 27 feet high, has been contracted for by Messrs. D. and E. Bailey, of Holborn, and will probably be completed by the middle of May. The whole range, when executed, will be one of the most extensive in the world." The Doctor proceeds to observe, "It is now to be expected that greenhouse and stove plants, especially the former, will become a great object of attention with the Society; the effect of which, will doubtless be, to improve the ornamental character of tender plants, in the same degree as that of hardy collections.'

We quite agree with the Doctor, when he says that few persons are at all aware how many objects are within their reach, the beauty of which is far beyond anything now in our gardens, and that only require space to grow them. The following account of the Pisonai, which it is to be hoped, will be one of the first novelties established in the Society's new Conservatory, will serve to illustrate this assertion.

"The Pisonai Tree"—This is one of the most magnificent trees, both in foliage and flower, perhaps that exists," it "attains such a size as I never witnessed in the largest of European forest trees."

Of this noble plant, specimens are known to exist five fathoms in circumference, and nearly seventy feet high; the foliage of a deep-green, is thick and spreading; the leaf in shape something like the Cinchona; it flowers in December, and is then one mass of Carnation colour.

When Dr. Lindley states that the contract alluded to above, will be completed by the middle of May, we fear such a statement places the reputation of his practical experience of this kind, in hothouse building, in jeopardy, Messrs. D. and E. Bailey were the contractors for the magnificent Conservatory erected for the late Mrs. Beaumout, at Bretton Hall, in Yorkshire; and there, as well as during the formation of the Sheffield Garden, we have had such experience as lead us to be very sceptical, when told that an extensive contract like that entered into by D. and E. Bailey, will be completed in an unreasonably short time.

We have much pleasure in drawing attention to the extensive, excellent, and well-arranged catalogues of Dahlias, advertised in the present month; and we would here take an opportunity of stating, that the Floricultural Magazine presents a valuable medium for advertisements, where the object of the advertiser is to do business with customers whose payments are made in cash instead of goods.

In the miscellaneous department of the Bolanical Register, is an interesting account of a plant called "Pita de Guataca." It is found wild, and growing in great abundance, in the vicinity of the Village Guataca, in the province of Carthaginia. The leaves attain the length of form nine to twelve feet, and are three to four inches in thickness. In 1831, it was introduced into Jamaica, for the purpose of cultivating it in the waste and sandy savannahs of that island. The fibrous properties of this plant is likely to bring it into notice; it is preferred to common hemp, on account of its superiority in lightness, strength, and durability, especially when exposed to moisture. It is found that three tons of Pita will make as much cordage, sail, or other cloth, as fifteen tons of undressed hemp. In 1834, the amount of Russian hemp and flax imported into England, was, 25,000 tons; by substituting Pita, 74,000 acres of the unproductive wastes of the West India Colonies would be put under lucrative culture. Pita is found to possess another important advantage, in being in equal bulk, one sixth lighter than hemp. Hence it is stated, that taking the standing and running rigging of a man-of-war, made of hemp, at 12 tons, by substituting pita, the top weight would be reduced two tons. Dr. Hamilton supposes this plant to belong to a genus between Guzmannia and Pourrettia. He also speaks of another species of Pita, thought to be a species of Agava. or Aloe, but yielding a coarser, browner fibre.

In the above department of the Bo'anical Register, is also given an exceedingly interesting and highly important notice, the substance of which we can only give. Mr. Payen, the celebrated French chemist, has proved satisfactorily, that Potatoes is not only uninjured, but in some respects improved, by being submitted to severe frost. By chemical experiment, he found Potatoes contained the same quantity of starch when frozen as when sound, and that the latter is the only nutritious part of the tuber; and he proceeds to say that "they ought to preserve, after being thawed, all their elimentary qualities, if they are quickly dried after having been properly prepared. M. D'Orbigny states, that in Peru, this mode of preserving Potatoes for food, is commonly employed. The Peruvians cause their tubers to be frozen on their mountains, and then bring them down into their vallies, where the heat rapidly dies them; and in this state of dissection, they preserve their nutritive pro-

perties for an indefinite time." It does not only, therefore appear, that Potatoes, when frozen, may be advantageously employed for food, if rapidly dried; but a far more important advantage results from this, that by killing Potatoes by frost, and rapidly drying them; the superabundance of one year may be made to supply the deficiency of future years.

In the Gardener's Magazine for February, is an interesting description of the Rock Garden, of Thomas Millie, Esq, in St. Clare Town, near Kirkaldy, Fifeshire. Adjoining this rock and pleasure ground, is a large piece of water, where is now kept a collection of water fowls; among these may be mentioned a large grey Gull, the first, and for a time, the only inhabitant of the rocks and water here. It would appear, that the possession of this bird suggested the idea of making other additions. "The following is the history of the Gull .- He had long been suspected, and it was at length discovered, that he was the occasion of serious injury to the ponds; it was, therefore, resolved to send him to a Gentleman in Clapham Rise, whose young family were of such an age, as to fully appreciate such a present. A large hamper was procured, and a stock of haddocks for the voyage, with a congratulatory letter, were all committed to the charge of a seaman, belonging to one of the London smacks. Jack was carefully instructed to attend conscientiously to the Gull, "and was instructed when he should arrive at the Wharf, to call a vehicle, and like another charged'affairs, drive alongside the Mansion, and deliver his despatches, and present in true diplomatic style." To these instructions the honest tar listened with attention, and having quaffed a glass of grog, took leave with the following characteristic salutation: "Shiver my timbers if I don't do my duty!" The voyage proved tedious, almost beyond precedent; and, after the vessel had reached Flamborough Head, she was driven back four times into the Frith of Forth. Many of our brave seamen, although when unappalled at the raging element, are superstitious to a proverb; and the last time they cast anchor in Burnt island Roads, flocks of white and grey Gulls floated high, and the Sea-Mews screamed around. A cockney messmate, with ominous-look, casting his eye aloft, and then fixing it on the hamper, where stood the imprisoned Gull, accosted Jack in these terms :-"These have been the most heaviest gales we've been out in as ever I seed. It was a perfect hurricane last night, fit to blow the teeth out of a fellow's head. Now, Jack, Ive just been thinking as how that there hanimal you have got here is the cause of it all; hang it, I'd let go the tow line and set him adrift. I would; no use talking, you know, Jack." No sooner said than done, and the Gull took the water. The honoured tar, however, on reaching London, proceeded to Clapham Rise, and delivered his letter, while his blunt story greatly tickled the Gentleman and his family."

The recent and unprecedented gale, which occasioned such destruction and devastation throughout the country and the western coast of Great Britain, has, in the Sheffield Garden, been productive of much more injurious effects on hardy evergreens than was the case during the severe frosts of 1837-8. The rapid rate at which the wind travelled during the violence of the gale, brought with it from the surface of the Atlantic Ocean, so large a quantity of saline particles as, in some instances, to render the windows of dwelling houses in exposed situations almost opaque. It was also perceptible on the twigs and branches of deciduous trees, and on evergreens. In the less sheltered parts of this garden, and in the surrounding neighbourhood, the latter have been nearly denuded, or the foliage so injured and torn, as to render its entire removal indispensible to the healthy and ornamental appearance of the plants.

INSECTS INJURIOUS TO THE APPLE.—The most destructive of all insect enemies to the apple is the American blight Eriosoma Lanigeru or Aphis Lanigera. This insect is said to have been imported upon apple trees brought

from America, and to have first made its appearance in a nursery in Sloanestreet, in 1787, but Salisbury asserts, upon what he supposes to be good authority, that it was introduced by the refugees from France, in the reign of Louis XIV, and first made its appearance at Haddington, where some of these people settled. It has now extended itself into every part of Great Britain, and few gardens or orchards are without it. The late Sir Joseph Banks studied the origin and history of this insect, and came to the conclusion that its extirpation was to be effected by the application of spirits of tar laid over the parts affected. This remedy, if early begun and persevered in, will, no doubt, eradicate it in time, or, at least, greatly lessen its effects; but the most effectual of all remedies is to obtain, if possible, trees completely clear of it in planting a new fruit garden or orchard, which, by the bye, is no very easy matter, as most nursery stocks are more or less infected with it. For this purpose the trees should be selected during summer, when the disease is most conspicuous. This precaution, with a watchful eye kept upon the trees ever after, is the most effectual remedy. In gardens where it already exists, the next most rational plan of operation is pruning away during winter all infected shoots and branches, and even taking up the trees and performing the same operation on the roots where it also abounds, removing decayed bark and the blisters or pretuberances which it occasions with a sharp knife, washing the parts affected with the strongest ardent spirits possible, and keeping up a perpetual war against those that appear during summer by brushing them with a hard brush of a long narrow form, capable of being applied between the branches, and into every cleft and corner, where they chiefly take shelter. This insect is also sometimes attacked by covering the trees during winter with a thick lime-wash or more simply with a strong clay-wash, made so thick that when dry it will form a coating or plaster over every part of the tree. Both these plans, at first sight, appear reasonable, because the insects supposed to be under them would become suffocated for want of air; but the misfortune is, that they are not in a state of existence during winter, but only their eggs, and thus, instead of being destroyed either by the lime or clay covering they are really protected by them till the warmth of spring brings them into existence, at which period also these coverings are removed by the action of the vernal showers, and the young aphides thus liberated, commence their attacks upon the trees .- The Orchard by Mr. M'Intosh.

The origin or causes of variegation are involved in the like obscurity as the causes of the greater number of distempers: we know of no particular cause or means that will invariably produce variegations; yet we know of causes, that occasionally produce or rather contribute to produce it. The wounding or injuring of plants in any way, may induce variegation, as is manifest from the twigs or branches that becomes variegated, being in most instances bruised, broken, or otherwise injured, prior to that change.

Variegation, as every person well knows, differs greatly in different species; the foliage of some being striped, while that of others is mottled or blotched; but this difference evidently arises from a difference in the plants, and not in the distemper which affects them; for upon examination, the leaves of the former, we shall find to be composed of longitudinal fibres, like those of the yucca and iris, while the leaves of the latter are composed of reticulated fibres, like those of the variegated sycamore and elder.

It is rare that the seeds of variegated plants produce others that are variegated; yet instances have been known of their seeds producing such for several years in succession. Miller, in treating of the variegated sycamore, gives us to understand that variegated plants may be obtained from its seeds, without fail; but this is not the case, and though it cannot be denied that its seeds oftentimes produce such, yet there is no reason to believe that it differs from other species in this particular. The fact is, variegated plants may at one time be obtained from the seeds of such as are variegated, and not at another; and the insertion of variegated sciens or buds may impart variegation at one time and not at another; because plants, though variegated, are not all times

the seat of that disease which causes variegation, and it is only when they are in a state of active disease that the affection is propagated, either by seminal increase or inoculation.

There is certainly no reason whatever to believe, that variegated plants are diseased, when the variegation is no longer propagated by their proximity unto other plants,—by the insertion of their buds, nor by their renewal from seeds. But a more satisfactory proof of the majority of such plants, free from disease, we cannot possibly have, than that of the health they commonly enjoy. Health and disease never can associate,—every disease is prejudicial to health, and mortal in its tendency, and would prove mortal in effect, were it not counteracted by the inherent energies of life. A disease seldom remains in the same state, but either increases and kills, terminates in another distemper, or produces some action or motion in the body, by which it is cured.—Casual Bolany.

All suffering doth destroy or is destroyed, Even by the sufferer.

The first hybrid amongst our liliaceous plants that appeared in our gardens, was the mule between Hippeastrum vittatum and reginum, which was circulated under the name of Amaryllis Johnsoni, having been raised by a nurseryman, named Johnson. It was, perhaps, an accidental production, for it was offered to the public with an incorrect statement that it had been raised by impregnating H. vittatum with the polen of Sprekelia formosissima. He might, however, have made various trials, and have been deceived as to which of them had been successful. That statement has been since disproved by the failure of every attempt to fecundate any species of Hippeastrum, by the pollen of Sprekelia, of which the separate generic character is thereby confirmed, and also by the facility with which plants exactly similar have been raised between H. vittatum and regium. The next hybrid of that order, that flowered amongst us, was the Crimum Goweni, which was raised from seed of C. capense, impregnated with the pollen of C. Zanlanicum, in the greenhouse of the Earl of Carnarvon, at Highclere, in 1813, by R. G. Gowen, Esq., and blossomed in my possession at Spofforth; and soon after the mules, between C. capense and Canaliculatum, which had been first raised by me at Mitcham, about the same time, came into flower with other crosses at Spofforth. All the hybrid Crinums raised between Capense and tropical species, which are now very numerous, are hardy enough to stand out of doors against the front wall of a stove, where, if a mat is thrown over them in sharp frosts, they preserve much of their leaves through the winter, and from May to November, continue throwing up a succession of flower-stems, in great perfection. C. scabra capense bears the most beautiful flower; C. pedunculato capense is of the largest stature. The only other hybrids of much note in our gardens at that period, were, to the best of my recollection, as follows:- The Rhododendron Azalioides, obtained by the accidental impregnation of an azalea, by Rhododendron Ponticum, in the nursery of Mr. Thompson, at Mile-end; the Rhododendron glacum hybridum, figured in the Botanical Register, and azalea enneandra figured in the Botanical Magazine, which had both been raised by me at Mitcham, and removed to Spofforth. Since that time we have had the Rhodendron fragrans, of Mr. Chandler, and a very great number of similar crosses from American white azaleas, by Rhodendron ponticum, at Highelere. I am not aware at what period the beautiful male pink, which is common in our gardens, made its first appearance, nor through whom, or in what manner it was obtained, but was probably the produce of an accidental intermixture of a florist's pink with a crimson Sweet-William. Mr. Sweet gives no date to the hybrid pinks. Several most beautiful mule Gladioli and Ericæ, which had been raised at Mitcham between the years 1808 and 1814, and removed from thence to Spofforth, had also flowered there, but had not been made known to the public till the year 1819, when an engraving of Crinum Goweni was published in the Horticultural transactions, and a figure of two or three crosses of Gladioli appeared soon after in the same work.-Herbert.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXV.-APRIL, 1839,

ORIGINAL COMMUNICATIONS.

REMARKS ON ANIMAL AND VEGETABLE CHEMISTRY.

BY AN ADMIRER OF FLOWERS.

In compliance with a request in the last number of the *Pioricultural Magazine*, (page 236), I feel a pleasure in resuming my pen to explain the statements (alluded to by "Rusticus") which were made by me two years ago, at page 218, vol. 1.—It may be well, perhaps, just to observe in the outset, that as I do not possess copies of those numbers of the *Saturday Magazine*, from which "Rusticus" quotes, I am unable to refer to the articles with which he experiences a difficulty in reconciling my observations; and must, therefore, confine myself to a defence of the assertions to which "Rusticus" alludes.

On reference to the article in question, (page 218, vol. 1), I find I used the following words:--" In breathing atmosphericair, man and all other animals, retain the oxygen, which enters into the blood, and return the nitrogen." Now, in making this assertion, I do not say that man exhales nothing but nitrogen; that would be decidedly wrong: for it is a well-ascertained fact, that a considerable portion of the gaseous matter evolved from the lungs of animals is carbonic acid; nay, this may be demonstrated by the following very simple experiment :- Let a little lime water (which is a perfectly transparent fluid) be taken, and breathed in by means of a quill;—the lime water will instantly become turbid; presently white flakes will be seen floating about like the fleecy clouds in a summer sky; and, when these have fallen to the bottom of the vessel, they will be found on examination to be 2 т VOL. III.

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carbonate of lime. Here the carbonic acid evolved from the lungs, enters into combination with the lime of the water, and carbonate of lime is produced. This, then, indubitably proves that animals "evolve carbon;" but, at the same time, it does not appear to me in the least to invalidate my statement, that they "return the nitrogen" of the air also. It must be recollected that, in the communication alluded to by "Rusticus," I was not pretending to give a minute analysis of what animals exhale, but was simply wishing to show that the animal creation appropriate to their use only one of the constituents of the air, (viz., its oxygen), and that when that constituent has been withdrawn, the vegetable world is the instrument wisely appointed by our Creator, for rendering the air again fit for use. This being my sole object, and recollecting that I was writing for a Floricultural, not a Chemical publication, I was afraid of entering too deeply into chemical minutiæ, lest the very prolixity of my communication might render it dry and uninteresting to the generality of its readers.

In corroboration of my assertion, that animals "return the nitrogen" of the air, it may be well, perhaps, to quote one or two chemists of acknowledged reputation on the subject. Parke, for instance, in his Chemical Catechism, page 52, says, "The greatest part of the nitrogen of the air is thrown out of the lungs at every respiration." Professor Brande, again, in his Manual of Chemistry, says, at page 243, vol. 1, "Carbonic acid is expired along with the unaltered nitrogen." Similar passages to these might be selected from the writings of Turner, Davy, Faraday, and other eminent chemists, but these two may suffice. But setting aside for a moment all authority on the subject, I think I can prove to "Rusticus," in a very few words, the truth of the proposition, that, besides carbon, animals "return the nitrogen" of the air.

Istly. Carbonic acid (the gas mentioned by the writer in the Saturday Magazine) is much heavier than atmospheric air; so much heavier, indeed, is it, that although a colourless and invisible gas, it may be poured from one vessel to another like water, without escaping into the atmosphere.* If, therefore, the gas

^{*} As carbonic acid gas may be very easily prepared by the action of muriatic acid, diluted with two or three times its weight of water, on fragments of marble or chalk, any person may with but little trouble satisfy himself of the correctness of the above remarks. As soon as the acid comes in contact with the marble or chalk, an effervescence takes place, and the gas may be collected in a bladder or other vessel.

which we return from our lungs be entirely, or even chiefly, carbonic acid, as soon as it escapes from the mouth and nostrils it ought to descend, whereas hourly experience teaches us, that exhaled air always rises above our heads; and in our churches and theatres, when very crowded, the lights in the galleries may be seen to burn dimly long before those in the other parts of the building, clearly showing that the impure air occupies the highest instead of the lowest situations.—A host of other facts might here be adduced, to point out the difference between exhaled air and genuine carbonic acid gas; but as this is by no means a floricultural subject, I pass them over.

2ndly. If the nitrogen be not returned from the lungs, perhaps the writer in the Saturday Magazine can inform us what becomes of it? Chemists and physiologists from the year 1775, (when nitrogen was first found to exist in the air) down to the present time, have been unable to discover any office performed by it in the animal economy; and have, therefore, concluded that it is returned at every exhalation. It is, however, quite certain that it cannot enter into the composition of carbonic acid in the lungs, as carbonic acid contains no nitrogen at all, but is a compound of oxygen and carbon; and is formed by a portion of the oxygen which we inhale, uniting with the carbon or refuse of the blood. In this, as in all the operations of nature, we are enabled to trace somewhat of the wisdom of the Great Author of Nature; for were it not for this process, the blood would have no means of being freed from the noxious particles that accumulate therein during its circulation over the body: as it is, however, this refuse becomes combined with a portion of the oxygen which we inhale, and, in the form of carbonic acid gas is then discharged, together with the unaltered nitrogen, from the lungs.

Having now quoted high chemical authority in favour of the statements to which "Rusticus" has alluded, as well as given my own reasons for still believing them to be correct, I may perhaps be allowed to remark that I, by no means, concur in the opinion of the writer in the Saturday Magazine, (quoted by "Rusticus," at page 236), that the luxuriant state of vegetation in the neighbourhood of the metropolis, arises "from the immense quantity of carbon given out into the atmosphere by the burning of coal in London, as well as from the breath sentout from the lungs of the inha-

bitants;" for the air in the vicinity of the Metropolis is found to contain but very little more carbonic acid than in most other situations. Indeed, we cannot expect to find any essential difference in the constitution of the atmosphere in any situation, as the action of the winds must soon dissipate any local accumulations, either of carbonic acid or any other gas. Sir H. Davy remarks on this subject, that "the different parts of the atmosphere are constantly mixed together by winds, which, when they are strong, move at the rate of from sixty to one hundred miles in an hour. In our winter, the south-west gales convey air which has been purified by the vast forests and savannahs of South America, and which, passing over the ocean, arrives in an uncontaminated state. The storms and tempests which often occur at the beginning, and towards the middle of our winter, and which generally blow from the same quarter of the globe, have a salutary influence. By constant agitation and motion, the equilibrium of the constituent parts of the atmosphere is preserved; it is fitted for the purposes of life; and those events which the superstitious formerly referred to the wrath of Heaven, or the agency of evil spirits, and in which they saw only disorder and confusion, are demonstrated by science, to be ministrations of Divine intelligence, and connected with the order and harmony of our system."+

Feeling that I have now trespassed to an unwarrantable extent on the pages of the *Floricultural Magazine*, I must conclude, by assuring "Rusticus," and the readers of the *Magazine* generally, that I shall at all times feel great pleasure in answering, to the best of myability, any queries that may suggest themselves in the perusal of my communications.

An ADMIRER OF FLOWERS.

Wolverhampton, March 13th, 1839.

ON THE CYCLAMEN.

BY BELERIUM.

The Cyclamen Hederaefolium is indigenous. The europeum is from Austria, and was in cultivation in this country, in 1596; the coum and vernum are from the south of Europe, and were intro-

. Elements of Agricultural Chemistry, page 216.

duced in 1731, in the southern counties: these species are hardy, and flower in the open air freely.

The C. persicum is from the Island of Cyprus, requiring a warm greenhouse temperature to be grown to perfection; of this species there are two varieties, the one scentless, the other highly odoriferous. These are I consider in early spring the greatest ornaments that Flora affords without forcing is resorted to; but, although they have been introduced upwards of 100 years, comparatively few persons grow them, and fewer still to that perfection they are capable of attaining to. I have always had larger flowers upon the scentless than upon the fragrant sort; but I prefer and would recommend the latter, the colours being just alike in either.

The repandum deserves especial notice, both from its variety and comparatively recent introduction, and great beauty; its flowers are of a rosy red colour, produced plentifully, and continue in bloom a long time; it usually flowers in May.

In accordance with the request of a subscriber in your last volume, I beg to detail the culture as desired, from the seed sowing, to its final development as a blooming plant.

The C. europeum and other hardy sorts seed freely, and if kept in pots undisturbed every year, will produce young plants in abundance without trouble; which on the leaves dying off the second year, should be transplanted into a rich and light soil, and set in a shady place, protected from rain for a month, after which they should be occasionally watered, and housed through the following winter. The tubers will be about the size of marbles in three years, from seed; and may be expected to flower on the fourth or fifth season. I consider them in their prime from the seventh to the tenth years of their growth.

The C. persicum and repandum are shy seeders in general; the former takes twelve months to ripen it. On its becoming black, it should be sown, say six or eight in a five-inch pan, in light and pretty good soil; and, if a little bottom heat is given, will quickly vegetate. On the dying away of the leaves, they should be kept dry until August, when they should be occasionally watered and carefully protected from cold during the winter. After the first year they should be annually potted, and treated as old plants—if successfully grown, they may be expected to flower the fourth year. The repandum has never seeded with me; but from the

growth of some purchased plants, I conjecture that six years is not more than the usual growth to a flowering state.

Some cultivators to propagate the Persicum, cut the tubers into pieces; this practice, however, unless the plant divides itself or produces offsetts, cannot be too highly deprecated; for even if the species live, (and it is often otherwise,) they take years to recover the effects of the wound, and sometimes quite die off after a year or two's nursing. I have known many splendid plants destroyed in this way, and among them a tuber of six or seven inches diameter: this plant was thought the best in the west of this county. The only safe way is to wait for the development of the seed, if increase is desired.

The whole of the species and varieties require one general treatment as to soil and water. After the flowering season of the spring flowering sorts, and the decay of the leaves of the autumnal ones, the water should be discontinued gradually; and on the decay of the leaves, the pots had better be placed in a shady place, on their sides, to prevent any water falling on them, as like bulbous plants they require a season of rest. I would suggest that the whole of the soil be shaken from their roots early in August, and planted in a rich loam soil, in which is a good portion of well decomposed dung, and a little fine sand. (I have not found peat to answer any good purpose, although some recommend it); they should be then put into the garden, and plunged until September, putting a little soot in the bottom and about the holes they are put in, to keep out intruders; they will require plenty of air and little water in November and December. In January they should be watered freely, be top dressed with rich soil, freely supplied with water, and kept close to the glass in a warm situation, airy rather than otherwise; they will be in flower in February and March generally. The pots should be twice the diameter of the tubers.

Some florists use liquid manure in February; but to those persons who wish a permanently healthy stock, I would advise a discontinuance of it: as unless applied with judgment, it will, in most cases, prove injurious rather than beneficial. If used at all, it should be well diluted and fermented, and should not be kept many days, as it soon becomes acid, and this and its acridity is

often the cause of its failure; it is, moreover, in a nicely kept house, a nuisance, which had better be dispensed with.

For the information of purchasers, I would say that John Young, nurseryman, Taunton, has a good stock of most sorts in cultivation, and in his last list to me are quoted as below, viz., Hederæfolium, 9d. each; Ditto, albidum, 1s. each; europeum, vernum and persicum, and repandum, 2s. 6d. each. Of course care should be taken to ensure a good sized tuber, as I have seen some of the repandums from the London Nurserymen, not much larger than peas, at 3s.6d. each.

In conclusion, I cannot too highly recommend the genus Cyclamen, to all those persons who are fond of fine flowers, and who are confined for room, or whose circumstances enable them to keep but a few plants, and those of easy culture.

Cornwall. Belerium.

[The full and ample detail given in the above paper for the culture and propagation of this very beautiful and highly interesting genus, renders unnecessary any remarks of ours. We would, therefore, only observe, that there are very few genera indeed presenting so many inducements to the amateur and general cultivator. We should not be credited were we to state the number of flowers we have seen on a healthy vigorous bulb. To those unacquainted with the genus, we might describe the tubers as resembling in appearance a small Dutch turnip, very much compressed and flattened. It is remarkable in this genus, that when the flowers decay, the simple flower stalk folds itself up in a neat and graceful coil, surrounding the seed pod, turning backwards, and pressing close on the surface of the soil.—Ep.]

RESULTS OF SOME EXPERIMENTS IN THE USE OF NITRE, IN VARIOUS DEGREES OF STRENGTH, WHEN APPLIED IN SOLUTION TO THE ROOTS OF PLANTS.

BY JOHN M'EVOY.

I have long had an impression on my mind, that nitre might be turned to valuable account, in the pot culture of exotic plants; but, for want of a criterion to go by, I have been fearful of doing more harm than good. I commenced cautiously this spring, and the following are the results:—One lot of hydrangeas I watered with a solution of two ounces to two quarts of salt water, which I applied in small doses every second day, the flowers were small, and of a pale pink, or almost white colour. A second lot I watered with a solution of two ounces to eight quarts of water; a third lot

with one ounce to six quarts; a fourth lot with liquid from cow's dung; and a fifth with plain water. The second lot were much better flowers than the first, both in leaves and flowers; the third and fourth were splendid flowers, the liquid manure gave the most luxuriant foliage, but the one ounce to six quarts gave the largest blossoms and most clear colour, the corymb of flowers was sixteen inches in diameter, and some single florets were two inches in diameter, and of a beautiful rose colour. We exhibited twelve of them at our Horticultural show in July, they were in No. 60 pots, and we had a prize for them. It was singular to see a collection of forty plants with so many appearances, and many a visitor asked why some looked so ill, while others looked so magnificent.

A plant of jatropha panduraefolia, which last April was nine inches high, by shifting and watering with one ounce to six quarts, is now a splendidly branched plant, nearly four feet in height.

Some young plants of Russellia juncea, which I watered with plain water, are about eighteen inches high, while one that I watered with one ounce to four quarts of water, is six feet high. A plant of Euphorbia jacquinaflora, which last spring was eighteen inches high, is now six feet three inches, with many stems, and splendidly in flower. Two plants of Genista redophina, were this spring of equal height, one was watered with a solution of one ounce nitre to four quarts of water, is now three and a half feet in height, while the other which was watered with plain water, is barely eighteen inches high. By the same treatment Solanum Herbertia, was this spring a small plant, but is now nearly five feet in height, having bloomed the whole summer. Also, Grevillea Acanthifolia, which was this spring only twelve inches high, is now three and a half feet, and in a very healthy state. We have also a magnificent specimen of Ipomœa Horsfalli, in bloom; it is in a tub, trained round a trellis, which it completely covers with its luxuriant green foliage. This summer we had a plant of Callistemon floribundus, which was neglected in watering for some days, and when it was discovered, the juices appeared to be quite exhausted, and by watering it, the whole of the leaves fell off after two days, and it was supposed to be dead: it however occurred to me to try the effect of nitre, this I did more from curiosity than faith in its virtues. I gave a small quantity every other day, unti

it began to exhibit appearance of life, which it did gradually, and it is now in a flourishing condition, having flowered beautifully this autumn; I could mention many more plants which I observed to be much invigorated by the application of nitre, in a state of solution; but, I fear I have already encroached too much on the pages of your Magazine. But it is, however, at your service to make any use of it you please. There certainly cannot be a more interesting subject, nor one which will give more infinite pleasure: for what can redound more to a gardener's credit, than a luxuriant healthy collection of plants? I shall feel a pleasure in sending you a paper on the culture of Mushrooms, if it should be thought to meet the wants of any of your numerous readers.

JOHN M'EVOY.

[The culture of the Mushroom is by no means generally understood, although the process be one of the simplest of gardening operations; we shall, therefore, feel obliged to Mr. M'Evoy for a description of the mode with which he is familiar.—ED.]

LIST OF HARDY PLANTS SUITABLE FOR A SMALL GARDEN. BY A POOR COTTAGER.

Having a few moments to spare, I now send you a continuation of my Select List of Plants, the former part of which you inserted in your December number.

Lychnis, Alpina, and Chalcedonica.—Of the first, there are two varieties, one red, and the other white, very pretty delicate flowers. As they are of dwarf habits, they should be planted at the edge of borders, to be seen with advantage. The latter is too well known to need any further remarks.

Irises.—These are altogether a lovely tribe of plants. The following are to be recommended:—Xiphium, squalens, pseudacorus, cuprea, persica lutescens, cristata, and any others may be added, according as taste and fancy may dictate.

Narcissus, such as poeticus, biflorus, Trewianus, or Bazelman Major, or Grand Monarque.—The roots should be taken up, if not annually, at least every two or three years, and separated, as they will then flower much finer, and increase more freely. This should be attended to in respect to bulbous roots in general.

Tigridia pavonia; a beautiful bulbous rooted plant; a small bed

of these, when in full bloom, make a very fine show. Like many others of the bulbous tribe, they increase by offsets, and also produce abundance of seed, so that a good stock may be easily obtained. They may be purchased for about 4s. per dozen.

Pinks and Carnations—are very desirable on account of their fragrance, as well as beauty. As they are now so extensively cultivated, they may be had of many of the Florists' establishments, at very low prices. When once obtained, they may be greatly increased by piping and layering; but layering, I consider, the surest method.

Tulips.—To those who are fond of cultivating a few Tulips (and I suppose most people are fond of flowers), I would recommend the following as being good flowers:—Drappeau, early; Bruid var. Haarlem, sweet, double yellow, double crimson, and Marriage de ma fille, with good border mixtures, selected from named flowers.

Lathyrus grandifolius, and Mutabilis.—Two very showy varieties of everlasting pea. If trained against a smooth level wall, they look extremely well.

Enothera speciosa, missouriensis, and tarxifolia.—All fine and showy. The flowers of the speciosa are very splendid, large, and white, and approaching to pink on their decline. As the plants are loose and straggling, they look rather uncomely; to prevent which, let several stems or shoots (as many as may be thought proper), be cut out of each, and those left to be neatly tied to sticks. They may be abudantly increased by dividing the roots.

Dahlias.—The varieties of these beauties of nature are so extensive, and becoming daily more so, that to enumerate them all, would take too much time and room; and as Cottagers' gardens in general, are too small to admit of many being cultivated, I shall leave the selection to the taste of the grower.

Phloxes.—These are also numerous; but the undermentioned few I can recommend as worthy of notice: Nivalis, subulata, tri-flora, maculata, suaveolens, acuminata, pyramidalis, odorata, carolina, and procumbens; propagated by parting the roots.

I shall now fill up the present paper by noticing a few select annuals.

Gillia.—Besides the blue and white varieties of G. capitata, there are also G. tricolor and achillifolia. They are all very fine

and hardy, so much so, that the self sown young plants will stand the utmost rigour of winter.

Larkspurs.—In addition to the well known old varieties, there are a great many new German sorts, the seed of which is annually imported. Some Florists recommend the sowing of these in autumn, and to this opinion, I can myself subscribe.

Flosadonis.—This is an old inhabitant of our gardens, but ought not to be despised on that account, as I know it is by some people: for it possesses a sufficient degree of beauty to recommend itself. I have found by experience that it does best when self sown.

Media elegans.—Very showy and handsome. As this, when full grown, is large and bushy, two or three plants are quite sufficient for a small garden; it will sow itself very freely.

Hawkweed.—Yellow, purple, silver, and red; but the yellow, I think, preferable to either of the others.

Venus looking-glass.—This is very profuse in flowering, and a few patches are desirable for the garden, particularly if the blue and white are near each other, or even blended together. There is also a large blue variety, which I call major; sows itself.

Clarkia pulchilla,—Red and white; also C. elegans, red and rose. I believe there are several more sorts, but with which I am unacquainted.

Candy tuft.—White, red and purple; also a fine new scarlet and purple. Of the white variety, there are several sorts; if the seeds of the different sorts be mixed and sown together, either in rows or patches, they have a fine appearance; if sown too thick, (which is often the case), they should be transplanted at a proper distance, either singly or two or three together, as the flowers will then shew much finer.

Lupines.—Large blue, small blue, yellow, straw, rose and white, to which I may add Lupinus elegans, L. Cruickshankia, and L. nanus, a new dwarf variety.

Ten Week Stocks.—White purple, and scarlet, (as it is called), but I think it is more properly red, at least I never saw any that were scarlet; also an extensive assortment of fine German varieties of all colours. To flower strong and fine during the summer months, they should be sown on a moderate hot-bed, as early in the season as convenient. When transplanted, let a bed be prepared on purpose, of good rich soil, in size according to the number of plants

intended; to be planted at least ten inches asunder. To make a good show, let all the sorts be planted on one bed.

Nemophilla insignis.—This is a most desirable little annual, and all who are fond of flowers, ought to have it. If sown on a bed by itself, or amongst others of different colours, and that come into bloom at the same time, it will make a most delightful appearance.

Calandrina, grandiflora, speciosa, and discolor.—These are all fine and beautiful. To shew well, they should be sown in patches by themselves, each sort as near together as the space of ground will admit. If they are too thick, it is best to pull some up and cast them away; for in my opinion, there are many flowers spoiled in being suffered to remain where they are sown.

As I find that neither the limits of my time, nor that of my paper, will allow me to conclude the Article, I must reserve what remains until another opportunity.

A POOR COTTAGER:

[We trust our intelligent "Cottager" will not forget his promise.]

ON THE PROPAGATION AND CULTURE OF ROSES, MORE ESPECIALLY THE WHITE MOSS AND ROSE DE MEAUX.

BY MR. WILLISON.

When I read over Surreyensis's remarks in your November number, I had formed a resolution to disregard them, as they seemed to be written rather in a querilous spirit, than that of an inquiry after truth; but, being solicited by you in your last number, and also by a particular friend of mine, in York, to reply to it, I willingly send you my mode of treatment on the growing of the White Moss and Moss De Meaux, hoping, that although I have but lately become a cultivator, "and it is evident" says Surreyensis, but for what reason he writes so, I know not; still I hope a detailed account of the mode of treatment, by which I have become possessed of these delicate varieties, and the strength they attain in one year, producing shoots of four or five feet in length, may be of some service to your readers. I shall now state to you the method which I adopt; and here I would beg to remark, that I do consider the soil and situation to have their share in the astonishing size they attain; still, I regret that Surreyensis should

doubt the facts I have stated. Mr. Rivers, in his Rose Amateurs' Guide, singles out the county of Surrey as the most favourable part of the Isle for the growth of the Province Rose, of which the Moss Rose is only a variety; this being the case, I am led to think Mr. Rivers has not hit on the right piece of ground for those Roses, or your Correspondent has obtained a wrong signature; if so, I hope he will correct himself. I shall, however, proceed to state; that in November, I make strong cuttings of the old blush China Rose, about nine inches long, then to within two or three inches of the top, and having selected a rich soil, and somewhat shaded situation, I plant these rather close in the lines, about eighteen inches apart; these generally, with me, by the time they have made the second growth, are strong enough to bud, that is in the following September. In the month of February or March, the year following, I untie the buds and remove all the small plants, and such as have not taken in budding between the lines, I dig over with or without manure, as I think they require. It is of very essential importance to look over these in the growing season almost every week, so that the suckers may be kept from robbing the bud, and preventing them attaining the strength I stated in my former paper; the accompanying plants* will practically answer what I wish to prove, namely, that these plants may be grown to the dimensions I stated. Having thought it best to send you a specimen or two, that you might see and judge for yourself, I must, however, say that these are not equal to what I could have seut you at the time I alluded to above, as the increase of business has prevented me being so particular as in former years, and also as the two last seasons has not been so favourable with us as in former years; still, what I have sent will show that my statement was correct, as the White Moss has a shoot nearly five feet, with a part cut off, another more than five feet of the last year's growth,

White Moss, budded two years with a single stem, three feet in length, and two and a quarter inches round at the bottom.

White Provence, from a sported shoot of the White Moss.

Celestial Sweet Briar.

Three Moss de Meaux, two years, from cuttings two feet nine inches long. One Village Maid.

One Red Moss, sported from the shoot of a White Moss. Reine de Belges.

White Moss, from the second time of being cuttings, two feet nine inches.

[•] The following are the dimensions of the plants and shoots sent us:—Shoot of Moss de Meaux, three feet two inches long.

Ditto White Moss, five feet six.

the Moss De Meaux, which is from three to four feet, was grown on its own root last season. I may here remark, at the end of two years, that is, from the time of planting the cuttings to the potting season, as I shall notice below, I have had plants of these two kinds more like strong Antwerp Rasps in appearance, than of Rose shoots. There is one way which I have grown the Moss De Meaux Rose, which may be worth detail, as it has been more admired than anything I have hit upon in the growth of these plants. and it is this: in the autumn, as soon as the leaves have fallen, I pick out as many plants as I want for potting, from the lines already alluded to, and such as are well branched, as they will, when grown to this strength, form a fine bush. I always prefer one-yearold plants to those of longer standing. In potting these, I use a good fresh rich loam, putting them into pots about ten or twelve inches over, and then setting them into a cold frame or vinery until wanted for forcing; here they will do well, a plant of this kind, when in bloom, from three to four, or five feet, is surpassed by no rose in existence, as the foliage is so much finer, and the roses being kept from wet, or any other injury, are more delicate than can be produced in the open ground. I have treated many varieties of roses in the same way, and, I have no doubt, that all tender kinds would be improved, if grown in this manner. Here I might add, that I always find the Moss De Meaux go back after the first year, if the situation is at all cold and damp; the shoot I have sent is from a plant eight or ten years old, standing on the dry border of a south wall; the White Moss I think less liable to go off in damp or wet situations than the former, still I find it stand by far the best against a wall. The practice of working the White Moss and other varieties on the China Stock is often objected to; but I for one, would prefer the old China to any other Stock. First, because when the Stock is worked close to the ground, it is in no danger of being killed by a severe winter, as is the case with some other kinds; again, it has no running suckers to rob the plant at a distance unseen, as is frequently the case with the Dog Rose and others; and again, it is so very different in appearance to the Moss Roses and others, requiring to be worked, that the greatest novice may at once distinguish it from the budded part. Another, and almost the principal reason why I prefer it to any other is, its always being in a

growing state, causing the plants worked on it to grow for a greater length of time than they do on their own roots, and most other stocks; so that they do not only produce longer and stronger shoots, but generally laterals as strong, as the plant in a common way is found to produce its strongest shoots in ordinary cases. Having given you these few remarks on two kinds of Moss Roses of delicate habits, I hope they may be found to assist some in the management of this genus. As I have raised a good many hybrid seedling Roses, and many of them very singular in their character, I, therefore, expect several of them to flower this season. If any particulars respecting them, or any mode of hybridising Roses, as I think it the shortest way to go to work to get something really 'good, and at the same time singular, I shall feel happy in communicating with you at a future time.

WILLIAM WILLISON.

Newgarden Nursery, Whitby, Feb. 20th, 1839.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Stachys coccinea.—A pretty, erect, herbaceous plant, much resembling A. salvia in general habit and appearance. It is of dwarf growth, from a foot to eighteen inches, and produces branching stems, closely studded with flowers of a rather dullish red, and slightly spotted on the lip. S. coccinea is a native of Mexico, seeds of it having been received from the same district, and at the same time as those of Salvia patens. It will be a useful plant for beds and clumps, for which its dwarf and free flowering habit render it peculiarly adapted. If planted out early in the season, Stachys coccinea will commence blooming in the early part of July, and continue, without intermission, till October and November. Like most of the Salvias it is of easy propagation, and will soon be in general cultivation.

Kennedya, Nova species.—A magnificent species, the seeds of which were originally received from the Swan River Settlements, in Australia, a country which has already afforded several highly ornamental greenhouse plants, and more than one of great value to the flower garden, as witness Rhodanthe mangleesii and Helichrysum macranthon, &c. In foliage, this noble Kennedya somewhat



resembles K. rubicunda, but is much more robust, and the leaves are larger and much more fleshy than those of K. rubicunda, and are thickly covered with dawn, which gives the young foliage a beautiful silvery appearance. The flowers are proportionately large, and equal in colour to those of K. coccinea. A fine specimen of this interesting plant was recently exhibited at the rooms of the Horticultural Society, from the gardens of her Royal Highness the Duchess of Gloucester.

Camellia rubescens striata.—This is decidedly one of the finest hybrid Camellias which we have yet had the pleasure of seeing; it is of a clear, blushing, rose colour, streaked occasionally with white. Its flowers are large and very full, and the petals are of a fine rose-leaved shape, and neatly set. This is, we are informed, the second year of its flowering. The entire stock of this valuable variety is in the hands of Messrs. Low and Co. of Clapton, who appear to have been fortunate in introducing to the Horticultural world some of the finest varieties of this favourite family. Since we saw the plant in bloom, at the Clapton Nursery, we have seen a drawing of it, from the pencil of Mrs. Withers, which will, we think, fully justify our encomiums.

Gardoquia betonicoides.—An erect herbaceous plant, attaining a height of from two to three feet. Stems branching and producing, from the axils of the leaves, cyruls of bright rosy purple flowers, about the shape and size of those of G. multiflora, but much more abundant. Foliage larger and more seriated than that of G. multiflora. G. betonicoides is a native of Mexico, and was also received at the same time as Salvia patens. It will be a very desirable plant for clumping out in the flower garden, as it is showy and produces dense masses of bloom. Its season of blooming is from July to November, during which period it continues in full flower. We may also mention that its flowers and leaves possess an agreeable fragrance. It is of easy propagation, and should be in every collection. It was raised at the Clapton Nursery.

Hove pungens.—This interesting and elegant species has at length flowered in the collection of the Messrs. Rollinson, of Tooting. Its flowers are of a purplish blue, and very handsome. The foliage of this species is remarkably distinct from that of any other Hovea at present introduced, being exceedingly narrow and armed with a long sharp mucro. So dissimilar, in general ap-



J.T Hart Pinx.

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pearance, is H. Jungens from any of the other Hoveas, that grace our collections of greenhouse plants, that many cultivators found it difficult to credit the assertion of those who assigned it to that genus. H. pungens was introduced to this country from the collection of Baron Hugel, of Vienna, by whom seeds of this and many other valuable plants were collected, during a recent tour in Australia.

Phalonopsis amabilis.—This extremely rare and very beautiful orchidaceous plant is at present in full bloom in the same rich collection. P. amabilis is a native of Manilla, and is remarkable for the leathery thickness of its beautiful white petals. The interesting Chorogema, which we noticed in a previous number under the name of C. elegans, has at length flowered at the gardens of the Horticultural Society, and fully justifies the expectations we had formed of it. Its spikes of flowers are large and of a brilliant colour. We are informed, that two varieties of this very beautiful species, or two species nearly allied to it, have also been raised in the gardens at Turnham-green, and are of an equally promising character.

REFERENCE TO PLATE XXXVIII.

MRLLIA JAPONICA, "THE KING." Camellia.

NAT. ORD. CAMELLIEÆ. CLASS MONADELPHIA POLYANDRIA.

We have the pleasure of again presenting our readers with another plate Camellia. This is one of the handsomest of many varieties that within the few years have been added to our collections. It would appear from following communication, kindly sent us by our friend, Mr. Garvie, Nurman, Stratford Green, near London, that we are indebted to him for the troduction of this very excellent variety. He says "the Camellia in questions was imported into this country early in the spring of 1836, and the first into were let out by me in October of the same year." About this time plants as old as high as twenty-five guineas each. Deeming it the finest variety out, I named it the King, and by this appellation it is now known. According to size, plants are now sold at the various intermediate prices, from to 42s. each.

Anceeived a letter from one of the first Nurserymen in Ghent, a few weeks informing me that it was in fine flower at Mr. Rynder's, an amateur at weeks, and gave great satisfaction, being finer than the drawing, which was form a very imperfect flower. (This refers to the drawing from which sagure was taken.) This variety is a very free grower, and has the dealed property of blooming at an early stage of its growth. The Camellia we of those classes of plants, the interest of which will, in all probability, fastimus to increase, unlike the flowers of a day that bloom gaily, pass away

and are forgotten. The Camellia japonica is becoming more and more appreciated every year, and among the various cultivators of this family, are several new and undescribed kinds, highly spoken of here: of these nothing can at present be said. The following are, however, a few of the new and leading kinds: the Queen Rose, by Mr. Presley, near Bromley, Kent, has been purchased by Mensuar, at Verschaffelt, Nurseryman, Ghent, for one hundred guineas; but is not yet, as far as I am aware, in the London trade. Palmer's Perfection, 42s. Palnuri; this is very scarce, I believe it is not yet for sale.

Palmer's Cavendeshi, 31s. 6d.
Colvilli rubra, 10s. 6d.
Candidissima, 5s.
Donklari, 10s. 6d., and fine strong
flowering plants, with nine buds,
63s.
Gellisi, 5s.
Lefeveriana, 10s. 6d.
Noblessima, 10s. 6d.
Tricolor, 10s. 6d.
Ocroluca, 21s.
Hendersonia, 7s. 6d.

Sieboldi, 10s. 6d.

Cambli, 10s. 6d.
Lady Elisnore, 10s. 6d.
Youngi, 7s. 6d.
Frankfortensis, 10s. 6d. to 21s.
Jensseni, 10s. 6d.
Kellyana, 10s. 6d.
Hetropetala rubra, 7s. 6d, and var.
alba, 7s. 6d.
William the Fourth, Cunningham,
21s.
Nicholsi, 21s.
Eliza, 31s. 6d.
Humi Superba, 42s.

The whole of the above are good, many of them scarce and excellent varieties, all of which I possess in strong and vigorous plants.

NOTICES OF NEW PLANTS.

DIANTHUS FERRUGENEUS, Yellow Pink.

Bot. Reg:

NAT. ORD. SILENACER. CLASS DECANDRIA DYGYNIA.

This is unquestionably a very great acquisition to hardy perennials, the flowers are abundant, and of a clear yellow, the foliage and flower stems alender and graceful, and the species itself is also very rare. White and pink have hitherto been the prevailing colours in the genus. Seeds of this plant were brought from the Botanical Garden of Florence, by the Hon. W. T. Strangeways, and it is conjectured to be one of hybrid origin, and to owe its yellow colour to an intermixture between Carthusianorum and Ochroleucus.

It is a native of various parts of the kingdom of Naples; flowers during July and August, and attains the height of eighteen inches.

TROPÆOLUM TUBEROSUM, Large rooted Indian Cress. [Bot. Reg.

NAT. ORD. TROPROLEM. CLASS OCTANDRIA MONOGYNIA.

The rapidity with which this plant is increased, has offered an opportunity of distributing it very extensively; and although of recent introduction, it is now to be met with in collections of only ordinary pretensions. The foliage resembles that of the common Indian Cress, on long slender foot stalks. The stemz are long and trailing, well calculated to cover trellis work on a south wall, or in the greenhouse. The flowers are rather large, and are scarlet and yellow. It is a native of Peru, and is there extensively used as an article of food, resembling our potator. In warm situations it is found to flower freely on a south wall, if the plants are strong when planted out. When first brought into notice in this country, it was commonly recommended as an excellent substitute for our potatoe, but experience has proved it to be of little value in this respect.

DRACOPSIS AMPLEXICAULIS, Stem-clasping-leaved Dracopsis, [Bot. Mag. NAT. ORD. COMPOSITE. CLASS SYNGENESIE.

This is an hardy annual of moderate beauty, with yellow flowers resembling

a species of Coreopsis. The flower stems are slender and branching; the leaves are entire, lanceolate, and clasping the stem. In some instances, the leaves have been found serrated. It was sent by Mr. Drummond, from Orleans.

ROELLA ELEGANS, Elegant Roella.

| Paxton's Mag.

NAT. OBD. CAMPANULACEE. CLASS PENTANDRIA MONOGYNIA.

A very pretty little slender branching plant, with opposite oval, hairy leaves, bearing, from the axils of each, a solitary blue flower, with a spreading limb. Mr. Paxton says, "It must greatly increase the value of this species in the estimation of our readers, if like us, they are fascinated with the richness of its flowers, when we state that our attention was first attracted to it about two years since, in the stove of Messrs. Young, of Epsom; and notwithstanding our subsequent visits to that establishment have been monthly, we scarcely remember an occasion on which, at least, one or more specimens were not in flower." Its native country is unknown, but was received at the Epsom nursery, from the Glasgow Botanical Garden.

GESNERIA DOUGLASII, VAR. VERTICILLATA. (Mr. Douglas's Gesneria, whorled leaved variety. | Paxton's Mag.

NAT. ORD. GESNERIACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

The species of Gesneria, of which this is a variety, has been some years in cultivation, and as a stove perennial is generally and justly admired, as indeed are most of the species of this ornamental genera.

The leaves of this plant, as the specific name implies, are in whorls on the short deciduous flower stems. They are of a rich green colour, with deep rose coloured veins. The flowers are produced in a dense umble, and are mottled with yellow, red, and purple.

The varieties of Gesneria Douglasii are very numerous; we have five or six in the Sheffield Garden, all differing either in habit, or some other respects. "Gesnerias may be incited to grow at various periods, as their flowers may be desired; but it is better to allow them to take their natural course, and to re pot and place them in a humid heat when they exhibit a tendency to shoot. The soil used, should be a compound of light loam, heath mould, and rotten manure, of which, the first named should constitute a moiety of the whole. There appears no reason why they should not be susceptible of hybridization; and it is probable that a hybrid between the present plant and G. Cuperi, or other similar species, would be both novel and interesting."

LISIANTHUS RUSSELLIANUS, Duke of Bedford's Lisianthus, [Pax. Mag. NAT. OBD. GENTIANACE A. CLASS PENTANDEIA MONOGYNIA.

We have now before us a beautiful figure of the much talked of Lisianthus. It would appear the seeds were first transmitted to this country by Mr. Drummond, collected by him, in San. Felipe de Austian Texas, and reared in this country in 1835; and Sowers were produced in 1837, both at Bothwell Castle, and in the Glasgow Botanical Garden. It has the appearance of an annual, but is found to be more properly a biennial. The stems are rather strong, the leaves are opposite, entire, three nerved, and of a rich light green. The flowers proceed from the axils of the leaves, on gracefully bent pedicles or stalks. The petals are five in number, each measuring about an inch and a half in diameter. The entire flower being about three and a quarter inches across, of a bluish purple, and having a dark centre surrounding the rich yellow stamens. It is indeed a splendid object, and we have no doubt the figure is a faithful representation of the plant.

Those persons interested in new and showy plants, are no doubt aware that an inferior variety of this lovely plant, has been circulated much to the prejudice of the species. Through the kindness of friends, we received during the summer, three plants of the spurious variety, but they were found so delicate and fugitive in their habit and growth, that no care that we could exercise in their culture, was sufficient to preserve them alive many days after their arrival; and like others, we were much disappointed, not only in

the delicate habit of the plant, but also in seeing a plant of this variety, produce its blossoms not one fourth the size of the figure now before us. We are, however, very glad of the opportunity thus offered, for dispelling this impression. Mr Paxton states in his notice of this plant, "that so little has at present been ascertained respecting its cultivation, that we are unable to propose any routine with confidence; and it is to be feared, that it will never become so inured to our climate as to adorn the open border, since the apparent season for flowering is at too late a period of the year. Indeed when kept in the greenhouse, it is almost necessary to remove it to the stove upon appearance of its blossoms, as they will not otherwise be finely developed". A slight excitement in the spring, by artificial heat, is recommended as a means of hastening the expansion of the flowers; but this must be practised with extreme caution, and accompanied with an abundant supply of light. Great care is requisite in shifting the plant, as its roots are few and fragile. A rather rich loamy soil, slightly elevated in the centre of the pot, and perfect drainage, are essential; while water must be applied only in proportion to the necessities of the plant, and in the winter months, with considerable prudence. During the last summer, as much as seven pounds were asked for a plant of this Lisianthus, but it may now be obtained at 10s. 6d. per plant, in any respectable nursery; such at least was the price at which it was offered to us by a respectable nurseryman from Edinburgh, during the past winter.

TORENIA CORDIFOLIA, Heart-leaved Torenia.

[Bot. Mag.

NAT. ORD. SCROPHULARINEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

A small annual, much branched with heart-shaped serrated leaves, and pale purple tubular flowers; rather a neat annual, but not very ornamental.

CÆLOGYNE WALLICHIANA, Dr Wallich's Cælogyne.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

The pseudo bulbs are compressed and angular, of a dark green mottled colour, from the base of which rise solitary flowers of great variety, and are very large; the colours are rose, yellow, green, and white. It was found by Mr. J. Gibson, collector to his Grace the Duke of Devonshire, growing abundantly on the Khoseea Hills, in Eastern India.

CATTLEYA INTERMEDIA VAB. ANGUSTIFOLIA. Narrow leaved intermediate Cattelya. Narrow leaved inter-

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

Sir William Hooker says, this is "a native of Brazil, and sent to the Glasgow Botanical Garden under the name of Cattleya crispa; but that plant, as represented by Dr. Lindley, is so very different, that we cannot consider the two to be the same. From C. intermedia, figured at t. 2851, the present will be found to differ in no essential particular; and we are disposed to consider it a variety of that species, sufficiently distinguished, however, both from A and B to render it worthy of cultivation in every collection of Epiphytes, and equally meriting a place in this work." The flowers are large, and of a white or pale purple and rose colour.

ONCIDIUM RANIFERUM VAR. MAJOR. Frog flowered Oncidium, larger variety. | Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

The pseudo bulbs are long, tapering, and furrowed, bearing a pair of narrow, rather long, flexible leaves. The flowers are produced on a slender branched panicle, and are small and yellow. This flowered with Mr. Knight, in the King's Road, Chelsea, and is a native of Brazil.

MAXILLARIA VITELLINA. Yellow racemose Maxillaria.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

The pseudo bulbs are short and rather round, bearing a broadish oblong lanceolate leaf. The flower scape is short, alender, and bearing a few rather

small yellow flowers, with a dark spot on the lip. It flowered for the first time in Messrs. Loddiges' collection, at Hackney.

HUNTLEYA MELEAGRIS. Speckled Huntleya.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a leafy plant, bearing a single flower from the axils of the leaves and near the base, scarcely protruding beyond the foliage. The colours are yellow, white, and orange.

Dr. Lindley says, "this is at present one of the rarest of the Epiphytes in cultivation; the only specimen I have seen being that now figured, which flowered with Messrs. Rollisson in July, 1838." It is a native of the banks of the Rio de Pirapitinga, in the district of Bananal.

ONCIDIUM LURIDUM VAR. GUTTATUM. Mr. Boyd's Oncidium.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a variety of an old and well known species; but, nevertheless, is highly deserving the attention and culture of all who are interested in this curious and ornamental family. The flower stem rises to the height of three or four feet, and bears towards the extremity a profusion of deep orange, red, brown, and white coloured flowers. Imported from Jamaica, by Mesars. Rollisson.

MAXILLARIA STAPELIOIDES. Stapelia, like Maxillaria. [Bot. Reg. NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a curious little plant, with short, oval, reticulated leaves, and bearing one or two flowers, mottled with green, brown, dark purple, and white; much like the flowers of many kinds of Stapelia. It is not rare, but is now cultivated in many collections.

MARICA GRACILIS. Slender stemmed Marica.

Bot. Mag.

NAT. OBD. IRIDEÆ. CLASS TRIANDRIA MONOGYNIA.

This is a flag leaved plant. The outer petals are of very pretty pale white, and the centre ones beautifully marked with orange, blue, and deep purple. It is a native of Brazil; but at Woburn Abbey, where it was first imported and successfully cultivated by Mr. Forbes, it succeeded in the greenhouse.

ALSTROMERIA LIGTU. The Ligtu.

Bot. Reg.

NAT. ORD. AMARYLLIDACEÆ. CLASS HEXANDRIA MONOGYNIA.

As this is a genus interesting to all lovers of ornamental flowers, we shall quote the following remarks by Dr. Lindley, "How the figure of the Ligtu, given by Fenillee, barbarous as it is, could have been supposed to represent the Brazilian plant, called in gardens Alstromeria Ligtu, which is in fact the A. caryopyllæa, of Jacquin, it passes my skill to discover. This is a distinctly marked species, the characteristics are the long branched peduncles, and the obovate or obcordate sepals, to which may be added, that the latter are little, if at all, serrated. A. Ligtu is so named, because, according to Fenillee, it is called "Ligtu" in Chile; dried specimens from that country are not uncommon in herbaria, and the plant probably exists in many gardens, although not distinguished from A. pelegrina or pulchra. The former differs in its short one-flowered rigid peduncles. The latter in its shorter flowers, and S. pattuilate rather than obcordate serrated sepals."

PLANTS NOT FIGURED IN THE Bot. Reg.

HUNTLEYA VIOLACEÆ.

A specimen of this superb plant has recently flowered in the rich collection of Messrs. Loddiges; the flowers are between two and three inches in length.



JUNIPERUS SQUAMOSO (WALLACH).

Said to be an interesting and valuable species, and is quite hardy.

HOVIA CRISPA.

This is a native of Swan River, raised two years ago in the garden of R. Mangles, Esq. at Sunning Hill. It forms a bush of two feet high, with small purple flowers.

CHEIROSTYLIS PARVIFOLIA.

This is said to have been imported by Messrs. Loddiges from Ceylon. Supposed to be the only species in the country, and resembles a minute Goodyera.

SCAPHYGLOTTIS REFLEXA.

An orchidaceous plant of little beauty; a native of Demerara.

MACARDENIA MUTICA.

A small plant, with dingy white flowers, in the collection of Mr. Knight, of the King's Road. Chelsea; a native of Trinidad.

PINUS OOCARPA.

A native of Mexico, found growing among palms, and attaining the height of 30 or 40 feet; the leaves are from 8 to 11 inches long. Not expected to be hardy.

PINUS LAVEANA.

This endured the winter of 1837-8 without injury, is stated by Professor Schlechlendahl to attain the height of 30 or 40 feet; although in our gardens it assumes the appearance of a dwarf bush.

REVIEWS AND MISCELLANIES.

The Bouque!: or Ladies' Flower Garden. Being a description of those Plants which will flower in the Room, and the treatment most suitable, by a Florist. London; Simpkin, Marshall, and Co., Stationer's Hall Court.

This is a small pocket Volume, of 102 pages, designed as an assistant and directory to those who cultivate flowers in the windows of living-rooms, but more especially to ladies, as all plants in such situations are more immediately within their protection and care; but we will allow the author to speak from his own preface:—

"It has often been a matter of great surprise, that amongst all the various books that have been written upon Botany and the Cultivation of Plants, none should ever have been written upon the treatment plants require, when placed in a London sitting room.

"I have, therefore, taken upon myself a task of this kind in hopes, that when it has been perused, it will be the means of preserving many plants; and also of keeping that healthy and beautiful appearance upon them, which can

only be done by proper treatment.

"It was mylintention, at first, to have placed all those plants that require the same treatment together, and so to have made one description answer for each head or section. But this I found would be impracticable, as every two or three plants would require to be placed under a different head, and would consequently cause much confusion in the arrangement of them.

"I have, therefore, made a selection of the most approved flowers, for the various months of the year, and so given a description of each plant indivi-

dually.

Ten plants, with numerous varieties, are described as suitable for the month of January, fourteen for February, eleven for March, and ten for the present month. The first of these is the Cyclamen, an amply detailed description, and the mode of culture for this plant are given in the present number by "Belerium." The others named are Andromida, Cassinifolia, Stocks, Geraniums, Ledum paulstris, Pultenia, Cactus, Genesta, Canariensie, and Myrtles. As Geranium is the most popular of these flowers, the author has dwelt at greater length in describing the kinds and mode of treatment, than on most of the other plants which he has enumerated; and some very judicious hints are thrown out, which are calculated to be of assistance in keeping these beautiful flowers in health, for a greater length of time than would otherwise be the "In this country, they thrive much better when grown in large pots, although they are not so convenient for the room, for when they are grown in small pots and taken from the gardener's care into a smoky town, they require some other stimulus than merely watering them once or twice a day, as they do on the Continent, where unlike us, they have not the fogs and smoke to contend with, which is one of the greatest evils that plants grown in towns have to suffer in this country. They should, therefore, receive a little water morning and evening, but there should not be any kept in the saucers, as it soon causes the leaves to turn to a pale yellow, which is not easily recovered when produced from this cause; once a week the surface of the mould should be broken up, to about the depth of an inch, which might easily be done by means of the back of a knife, or small piece of wood; and, as flowers decay, they should be cut off immediately, by doing which, a great deal of strength is added to the plant, and of those kinds which continue flowering, it causes the bloom to open much finer and stronger." Such are some of the most valuable practical directions for the management of the Geranium; and we would wish to attach importance to those parts where it is recommended that the decayed flowers and leaves should be instantly and carefully removed, but more particularly in dissuading, by every possible argument, the very prevalent and destructive practice of allowing water to stand in the saucers

This little volume aspires to no elevated position in the Botanical literature of the day. Its pretensions are humble. It seeks only to address itself to the novice in gardening; but as all are pleased, gratified, and instructed, in contemplating and studying the growth and wonderful structure of plants, even from the highest Peer of the realm, whose gardens and conservatories are enriched and adorned with plants common and indigenous to every country and latitude on the globe, down to the meanest peasant, who grows his geranium, myrtle, or pot of mignonette, in some dingy apartment, by the aid of borrowed light. We, therefore, consider the "Bouquet or Ladies' Flower Garden," capable of affording useful instruction to all who cultivate plants in the windows of dwelling-houses.

Considerable inconvenience arises in training the branches of fruit trees over square projecting piers, on a garden wall, the sharp edges frequently causing them to become gummy and to canker, in consequence of the injury they receive in passing the angles of the bricks; to remedy this, the piers on my wall are made of an octagonal form, with bricks cast in a mould with the proper bevel. No increased charge is made for the bricks at the kiln, nor is there any additional expense incurred in the building of the wall when they are used. The wall when completed, has a much lighter appearance, and the branches of the fruit trees are trained with as much facility over the projection of the piers, as they are over a flat surface. The copings of my walls have a considerably greater projection than is usually given in this country. I was induced to adopt this plan from several circumstances which I will mention: I have observed that the fruit on clay walls is commonly superior, both in quality and quantity; these walls are always finished with a covering of thatch, for their preservation, which projects at least nine inches, and to this circumstance I attribute the abundance and excellence of the produce of the trees trained against them, arising from the ample shelter afforded to their blossoms during the spring season. I have also noticed for many years, that a Moor Park apricot tree, planted to the southwest, under the projecting caves of a low house adjoining my garden, never failed to produce large crops, without any other protection, whilst the blossoms of my own trees, in the same aspect, were frequently cut off, although guarded by a double netting, my wall having only a projection in coping of a few inches; and I apprehend that the difference of success in these two causes, could only arise from the difference in the width of the respective projections above them.

In the peach gardens at Montreuil, near Paris, a projection of four or five inches is universally adopted; and the Comte Lelieur, the author of Le Pomone Francoise, attributes the failure of the crops of grapes and peaches in the vicinity of Paris, more to the want of sufficient projection in the

coping, than to any other cause.-Hort. Tran.

QUERIES, REMARKS, &c.

I am not only fond of grafting and mutually diffusing every improvement, but I am now devoting much of my time to find out any chemical process for the early germination of seeds, and to promote quickness in growth. You will please excuse me troubling you with these ideas, or trespassing on your valuable time, as I assume you have enough on your hands, without being troubled with my scrawl; allow me however to ask, would carrot seed being steeped a few hours previous to sowing, be a benefit? or if turnip seed steeped before sown, act in any way beneficial, by an early growth into rough leaf, as a preventive from the fly?

D. S. W.

SIR,—As a novice in gardening, I wish to know if the following process of managing a pear tree, is any thing new. Asking an old gardener whom I saw pruning, why pear trees did not so soon produce fruit from the time of grafting as the apple, he said "|Why it was their nature," and time must be given them, from four or five to eighteen or twenty years. I had a pear plant sent me the same week; I think it might be two years grafted; I thought it would not bear for my gathering the fruit. I contemplated in what manner to act with it; and as I had no advisers, I took it into my head to prune the roots before I planted it, (say in March.) There were eight or nine branches of from two to three feet long each, these I left unpruned; at the following Michaelmas I lifted the plant, and finding two long roots, I pruned them in short and planted again, and lifted it again the two next Octobers following, making three times lifting and pruning, if necessary, during which time the branches did not grow much in length, but thickened, and produced some fine buds; in the following year, the plant produced and matured seventy-five fine pears, and has continued in blooming vigour since. Your's, &c.

D. S. W.

[Much importance is often attached to the ringing, pruning, &c, of various fruit bearing trees, with the view of inducing early fruitfulness, and as a temporary cause, the former is most generally successful. No pruning, ringing, soil, or situation, nor any thing else, short of the pruning and proper treatment of the roots, will ever produce permanent and satisfactory results. In the course of our own experience, we have seen and heard much of the effects of particular modes of pruning, as effectual in bringing into bearing pears, plums, and other trees, remarkable for their unfruitfulness during the early stages of their growth; but no plan of treatment with which we are acquainted or have seen practised, has been productive of effects so uniformly successful as that of occasionally lifting and pruning the principal and strongest roots. By this treatment the most barren trees may, in two or three years, be filled with blossom buds, and bearing wood. Having made these remarks, it will hardly be necessary to say we fully concur in the suggestions of D. S. W.—ED.]

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXVI.-MAY, 1839,

ORIGINAL COMMUNICATIONS.

A SELECTION OF THE MOST BEAUTIFUL OF THE ORCHIDA-CEOUS EPIPHYTES AT PRESENT IN CULTIVATION, WITH HINTS ON THEIR MANAGEMENT.

BY P. M.

Among the many new plants that have within the last few years been, and still continue to be added to our collections, through the munificence of the wealthy, and the spirited enterprise of British nurserymen, no plants or tribe of plants have attracted so much attention in the floricultural world as those of that beautiful and highly interesting order, Orchidacea, of which it has been justly recorded by an eminent cultivator, "that Orchidaceous Epiphytes are the most exquisitely beautiful of all nature's productions. Rich in every shade or variety of colour,-airy and fantastic, but always elegant in habit,-replete, beyond description, with every charm that can allure the senses, or enchant the mind :-- they totally eclipse all the old inhabitants of our stoves. and, moreover, present in their number and variety, a field of research to the botanical student and the enquiring cultivator, which, from the comparatively little knowledge of them we yet possess, appears really illimitable."* Few, indeed, will have the hardihood to deny the truth of the foregoing remark, who have had the good tortune to see well-grown specimens in flower of the genera Cattleya, Dendrobium, Oncidium, Stanhopea, and many more that might be specified. It is by many, otherwise clever cultivators believed, that orchidaceous plants are very difficult of

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^{*} Magazine of Botany, vol. 5, p. 193.

culture; yet such is not the case, if properly and carefully attended to: and, if any difficulty does present itself in growing some species, it may be traced to a want of not being fully acquainted with the natural habitat of the plant or plants, which may appear sickly. It is of paramount importance that collectors of orchidaceous plants should specify whether they abound in tropical or temperate regions, whether found in shaded or exposed situations; whether they appear to thrive best in excessively moist situations, or receive naturally only a moderate degree of atmospheric moisture; and, lastly, whether they receive that moisture by evaporation from the soil, by distillation from rain, or from their united influence,—Some species are found indiscriminately on trees and rocks, in low, damp, shady woods, where the sun can hardly penetrate; others are found growing on trees in open situations in the forests, where they receive a little sun, much more light, and a free but humid air; others again are found entwining single trees in damp, but exposed situations; other species again of this most diversified tribe, are found lending their leveliness to single trees in very elevated situations, where they are subjected to a much drier atmosphere than either of the former, yet they luxuriate in all their splendour under the scorching rays of a tropical sun. When all these particulars are correctly known, the most inexperienced cultivator cannot fail to bring this most justly admired tribe of plants to the highest state of perfection; for, with regard to plants of the first class, viz. those found in low, damp, shady woods, it is necessary to observe that they require shading from the rays of the sun (which is most effectually done by having a piece of canvas netting fixed on the house in such a manner as will allow of its being rolled on and off with the least possible inconvenience or loss of time). They must also have a hot and moist atmosphere. Those of the second kind require a similar atmosphere, but will endure more sunshine.-Those of the third class must also have a moist atmosphere, and a strong heat, but they do not require much shading, except about mid-day; the plants of the fourth class require a lower temperature, less moisture, and nearly a full exposure to the rays of the sun.

All orchidaceous plants enjoy light, a free circulation of air, and are naturally subjected annually to a period of repose, which may

be made to last from the Leginning of November to the beginning or middle of February; and during this season, the heat of the house should never exceed 72, nor sink below 50 degrees of Fahrenheit. The plants should be but seldom watered at their roots, except they stand upon a hot flue, or in some other warm situation, in which they might perish from drought; it is likewise necessary to guard against making the air of the house very damp, as during their winter, as it may be termed, they will not bear much humidity.

The season for a general potting should begin at the close of their period of repose; but, before any orchidaceous plant is shifted, all insects, accumulations of dust, &c. should be carefully cleaned off; and the soil in which it has been growing should also be dried well previously, as by so doing the roots are less liable to be injured when moved.

In potting, be very careful to give a good drainage; which is best done, in potting plants of a large size, by inverting over the drainage hole of the pot to be used one of a smaller size, so as to cover about half the bottom of the pot; over this is thrown a quantity of broken pots, sufficient to fill about two-thirds of the In potting a small plant, it is not necessary to place an inverted pot over the drainage hole. A proper quantity of very fibrous, rather sandy peat is next placed on the top of the broken potsherds, being first broken into various forms and sizes, (according to the size of the plant to be potted), but none of them much less than a walnut. Care should be taken, in placing these, to dispose of each piece of peat, so as to leave a passage for the free escape of water: and this is more securely done by putting in, as the process of potting goes on, a few pieces of broken pots, between every layer of peat, more or less. If the plant be large, it is a good plan to continue a connection of broken pots up the centre to the bottom of the pseudo bulbs. After the peat becomes level with the pot, the successive external layers should be made fast by means of wooden pegs, varying from four to ten inches long, these pegs run through the layers of peat, and thus bind the whole firmly together. The species of Stanhopea require to be raised higher than those of any other genus, for a plant of Stanhopea, with three or four pseudo bulbs, the peat will require to be raised about six inches above the level of the pot before the plant

is put on; and larger species of the same genus higher in proportion. When the plant is put on the peat, the roots must be carefully spread out and covered up to the bulbs with pieces of broken peat and potsherds, continuing to fasten the peat as before described, when it will be from twelve to sixteen inches high. It should be observed that in building up as here described, the peat is carried up nearly square, being only rounded a little at the top. The species belonging to the genera Brassia, Cattleya, Dendrobium, Oncidium, &c. do not require to be raised near so high as the Stanhopeas, but they are otherwise potted in precisely the same manner.

Without the plants are in excellent health, very little water should be given at the roots, even during the growing season, and in winter scarcely any; the great thing in the cultivation of this tribe of plants being to preserve the roots, which, by an injudicious supply of water, are sure to be destroyed.

All the species of Aerides, Saccolabium, Sarcanthus, Vanda, and Renanthera, can only be grown in moss, or attached to pieces of wood, and also Oncidium papilio, which does not appear to thrive well in pots; many of the species of Dendrobium may likewise be grown attached to pieces of wood; all plants grown in this way, merely require their lowermost roots to be neatly covered with moss, which is only employed for the purpose of excluding light, and retaining a sufficient quantity of moisture.

After potting, the temperature of the house may be gradually increased, and this increase must be closely in accordance with the duration of solar influence. In the growing season, the temperature of the house should range from 70 to 90, or even 100 degrees of sun heat; in the afternoon the house should be shut up early, and the paths well watered, once or twice a week, and oftener if necessary: the plants may be slightly syringed over head. Those species grown on wood will require syringing every morning, unless they receive a good deal of moisture through some other agency.

The best time for propagating orchidaceous plants is at the time of a general potting, when any of the pseudo bulbs having a bud upon it, may be cut off with a knife, and potted in a small sized pot, carefully drained; if only a single bulb be taken off, it need not be raised above the pot, but should then be placed in a good

strong peat. Vandas, Renanthera, &c. may be increased by carefully detaching lateral shoots, after they have attained the length of six inches, and fastening them to another piece of wood in a similar manner to the old ones: but great caution must be used to preserve them from excessive moisture, till they have recovered from the effects of being dissevered from the parent plant, and commenced growing.

The following list will be of some assistance to those who wish to possess only a few of the most beautiful kinds. I have not included any of the *Terrestial* genera, as *Bletia*, *Peristeria*, &c.; these may probably be the subject of a few remarks at some future time.

The most of the species in the annexed list may be obtained at the Messrs. Loddiges, Hackney; Rollisson and Sons, Tooting; Knight, King's Road, Chelsea; and Low and Co. Clapton:—

Comparettia coccinea Acropera Loddigesii Æranthes grandiflora Coryanthes macrantha maculata Ærides affine speciosa. cornutum Angreecum candatum Cychnoches chlorochilon eburneum Loddigesii maculatum Cyrtochilum bictonense maculatum Aspasia variegata Dendrobium aggregatum Batemannia Colleyi Calceolaria Bifrenaria aurantiaca chrysanthum Brassavola cordata nodosa cupreum densiflorum Perrinii fimbriatum Brassia candata Lanceans formosum Gibsonii maculata longicornu Burlingtonia candida macrostachviim Catasetum luridum moniliforme cristatum moschatum Cattleya crispa nobile guttata Pierardi Harrisonia secundum intermedia speciosum labiate Epidendrum æmulum Mossia Perrinii bicornutum pumila bifidum crassifolium. Chysis aurea floribundum Cirrhora foscolutea macrochilum Loddigesii oncidioides obtusata tristis Schomburgkii Skinneri viridipurpurea Cirrhopetalum Thonarsii Eria stellata Cælogyne barbata Muntleya meleagris Gardneriana Gongora atropurpurea maculata maculata Wallichiana

Grobya Amherstiæ Forbesii Lælia anceps Harrisonianum autumnalis iridifolium Leptotes bicolor Lanceanum Maxillaria aromatica luridum aureo-fulva guttatum cristata papilio decolor pulchellum Russellianum Deppei Harrisonie Phalenopsis amabilis picta Renanthera coccinea stapelioides Sacoolabium guttatum Steellii papillosum Sarcanthus paniculatus tenuifolia Miltonia candida teretifolius spectabilis Stanhopea Devoniensis Monacanthus discolor eburnea viridis insignis Mormodes atropurpurea oculata Myanthus barbatus quadricornis tigrina Wardii deloideus Oncidium altissimum Trichopilia tortilis ampliatum Vanda lamellata Baueri Roxburghi Cavendishii teres citrinum Vanilla bicolor crispum Zygopetalum cochleare deltoideum maxillare. divaricatum

P. M.

ON THE CULTURE, USE, AND BEAUTY OF TROPÆOLUM TUBEROSUM.

BY JOHN M'EVOY.

As the season is now at hand when all who desire to have a beautiful display in the flower garden during the summer and autumn, must be "up and doing," permit me to lay before your numerous readers the just claims to their consideration of this almost unrivalled and elegant plant. For who has not heard of Tropæolum tuberosum, (thanks to the Floricultural Magazine,) the plant which was to rival the root of Raleigh's care, or in other words the potatoe? In Paxton's Magazine of Botany, Mr. Young says, "when the tubers are boiled, they rival the potatoe in flavour, but are watery, and don't boil firm!" Why, really Sir, with as much truth it might be said that the Jerusalem artichoke would rival the potatoe. I myself have eaten of the tubers when roasted and also when boiled, and have found them very watery and insipid, with a faint sickly smell, resembling that of cold dressed Seakale, and of

a yellowish green colour. How different to that goodly root the Solanum tuberosum, with its clean white skin. But Tropæolum amply compensates in other respects for the deficiency, in its profusion of lovely blossoms. Last May we planted out a small tuber, about the size of a walnut, in the border of one of our stoves, and trained it to one of the pillars; it grew amazingly, and by the end of August it was 11 feet high and 8 feet in diameter, but yet no signs of blossoms. I carefully opened a trench round the extremity of the roots, which I filled with rough sand and lime rubbish, and in September had the satisfaction to see all its numerous branches studded with blossom buds, which continued to open until killed in November by 5 deg. of frost. This species appears more tender than T. pentaphyllum, which continued to bloom until the middle of January, when the thermometer indicated 13 degrees of frost. When I took T. tuberosum up, I found about a peck of tubers, some of a large size; a few I allowed to remain in the ground covered with a little litter, and found them not only sound but growing. I have struck them freely by cuttings in the open border, under a glass. I also find it propagates by "sets" the same as the potatoe; and this suggests to me the idea, that T. tuberosum might be successfully grown round the cottages of the poor, where its beautiful foliage and still more beautiful blossoms would render neat and ornamental the cottages, which in most of our towns and villages need embellishing by the softening hand of nature? Moreover, the poor themselves would profit by its use, for I have watched with what avidity the bee flits from blossom to blossom, and is evidently fond of this flower. When the flowering season is over, the tubers might be used for feeding pigs and poultry. Those whose gardens are hedged round might open a trench. put some dung in the bottom, and plant the tubers as they would potatoes, also letting the after treatment, such as earthing, and afterwards preserving, be the same. But it may be asked, where are the tubers to be obtained, for the poor cannot buy them? I answer, how easy would it be for noblemen and gentlemen's gardeners to put in an extra dozen or two of cuttings more than they wanted. and then distribute them amongst the poor. Should these remarks meet your views, I hope, Mr. Editor, you will give them publication. JOHN M'EVOY.

March 8th, 1839.

[The Tropsolum tuberosum, although a plant of recent introduction, is now to be found in nearly every garden where rare and ornamental plants are cultivated. It is a plant of rapid growth, and when grown freely it seldom flowers freely; but we think the hint of Mr. M'Evoy deserving consideration, as the species, when in abundant bloom, is amongst the most ornamental of half hardy plants.—Ed.]

REMARKS ON THE FRUIT AND SEED OF THE FUCHSIA FULGENS. BY HENRY FORD.

Thinking that it may be of interest to some of your readers, I write to inform you that I have ripened a bunch of fruit of the splendid plant Fuchsia fulgens, containing six berries or fruit, each berry being three quarters of an inch long, and as large in girth as a very large black current; a single berry contained about twenty small brown seeds similar to the seeds of other kinds of Fuchsia, but larger. The fruit is a dark green within, covered with light spots; the flesh resembles that of a green flesh melon, but rather softer, and scented, with a livelier and sharper taste; and could it be obtained in quantity it would be a most delicious dessert fruit. The drupe or berry is soft, and requires to be used as soon as gathered. I kept my plant in the frame amongst the melons until it was in full flower and got too tall for the frame, when I removed it to the greenhouse, and placed it amongst some Fuchsia globosa and Globosa grandiflora, where it must have been accidentally impregnated. The berries remained on the plant for three months.

HENRY FORD, Gardener, Willow Hall, Halifax. Willow Hall, February 12th, 1839.

ON THE PROPERTIES OF ROSES.

BY WM. WILLISON.

Agreeable to my promise, I beg to hand you what I consider essential properties in a good rose; and in doing so I shall be as brief as possible. First, then, I would have all roses divided into two classes; namely, cupped or globular, as in White Globe Hip; and expanded, as in Reine des Belges. But before I proceed further, it will be proper to notice that many good roses come between

for have in themselves both these characters already noticed as for instance, Crimson Perpetual and Moss de Meaux at the proper time, are often fine, and even when fully expanded they are surpassed by few. Others, as Globe Hip, and Malton, are only good when in a cupped state, others again very poor until well expanded, as the French Glory and Reine des Belges. The first of these classes, namely, those kinds which exhibit the cupped form during a period of their blooming season, ought to be preferred to those flowers which are expanded, as there is an elegance and beauty exceedingly striking; for instance, the Crested Moss, with its splendid globe-shaped flower just opening at the top, enveloped by its enchanting crest or fringed calix. This rose, when shown in a good condition, ought always to take a premier prize; it may be said to be the prince of roses. Having made these few preliminary remarks, I shall now state what I think ought to be the properties of each class, naming at the same time a few kinds by way of illustration.

First, in a fine cupped or globe-shaped rose, the flower must be sufficiently double, so that when it is just opening, at its best state of perfection, it may not show anything like a want in the eye or cup; the petals should be of a fine fleshy texture, rising equal in height, being free from any cut or indenture, the colour rich and clear, and the scent powerful; as to size, it should be such as neither to appear poor from its smallness, nor coarse from the opposite cause. Here I would beg to notice what will materially assist the young amateur in showing his flowers to advantage, as the very best kinds have often this defect, namely, short and cracked petals on the outside, by slipping these carefully to one side; they may be removed without doing any injury, and add much to the perfection of the flower. The roses I would recommend in this class are the Globe Hip (a fine white), Smith's Noisette (the finest yellow known, when grown against a south wall, and assisted by removing a few of the bad outer petals), Crested Moss (excellent, a fine deep rose colour), Malton or Fulgens (splendid crimson red), Rivers' George the Fourth (one of the best dark roses known), Village Maid (when not too old, perhaps the best striped rose out). As I think less of those roses which are expanded than of the foregoing, I shall content myself by saying less of them. Therefore, in describing a good expanded rose, I would say that it would be improved by having the following properties, indeed, should have them, namely, its petals fleshy and free from cut or split, its colour bright and clear, its scent powerful, its size as described above, the whole flower should form the half of a globe, having a fine hemispherical appearance to the eye; the same remarks as those given above will also apply to this class, with regard to removing and adjusting the imperfect formed petals from the extremity of the flower. Some of the best kinds in this class are Reine des Belges (pure white, very fine), French Glory (fine red), Blush Hip (delicate pink), Bobelina (fine purplish red), Felicite Perpetual (very neat, small white), Janne Despres (fine yellow), Camica (striped). I hope that these few plain remarks on some of the most essential properties requisite to a good show rose, may be of service to some of the friends of the Floricultural Magazine.

WM. WILLISON.

Newgardens Nursery, Whitby, Feb. 15th, 1839.

ON THE LARCH.

BY JOHN COKE.

In a hedgerow near this house, some Larch trees have been planted, which I can remember for the last 30 or 40 years. They have been boughed nearly to the top for some years. All those with regular tops have put out side shoots, more or less. That, however, of which I have endeavoured to send a sketch* has scarcely any side shoots. Its peculiar form has induced me to send you this account. The bunch, which appears like a large wig on the top of the stem, consists of (I should conjecture) some hundreds of small pendent branches, with their extremities turned upwards. It appears probable that the top has been broken by the wind or some accident, and that the present nearly horizontal leader was a branch left on the tree when it was lopped. It has been in the state represented for many years, but has inclined of

[•] The sketch sent us has a very singular appearance, with a stem of great length, entirely destitute of branches, and having a large cluster of pendent twigs at its extremity. To use a familiar comparison, we might describe it best by saying it very much resembled a mop.



late to take a more vertical position. The height of the stem may be about 25 feet, the length of the branch or leader from 10 to 12 feet.

JOHN COKE.

Debdale, near Mansfield, April 7th, 1839.

[We are glad of the opportunity of giving publicity to the preceding notice, with the view of drawing attention to the properties and adaptation of the Larch to the almost endless variety of purposes for which it is so admirably calculated. The instance now before us is one of frequent occurrence, as showing that the Larch will not only endure pruning and cutting in a variety of ways, but will bear mutilation to a greater extent without destroying life than is the case with many deciduous trees. It is a truth all are ready to admit, that objects of vast importance receive but little attention, when the results are presented to the mind through the perspective medium of twenty, thirty, or may be fifty or an hundred years. The thousands of acres of waste lands to be found in Great Britain bear ample testimony to this fact, when it is known that every acre of such land, even of the most inferior kind, when planted with timber trees adapted to the various situations and soils, is capable of returning fifty or an hundred per cent. on the outlay, besides abeltering and rendering the adjacent grounds fertile and capable of profitable cul. tivation. These remarks have a more direct reference to the extensive cultivation of Larch forests, three-fourths of the waste lands in Great Britain being peculiarly adapted to the growth of that tree. The value and importance of the Larch, as a timber tree, is also far from being justly appreciated. This will be better understood from the following remarks:-

"We are indebted for our attention being called to this important subject, by the prudent and calculating foresight of the Dukes of Athol, who, in laying the foundation of enormous wealth and power for their descendants, have shown the policy which ought to be followed by the nation.

"The late Duke of Athol calculated that the possessor of his woollands on the Tay, would, in a few years, be as rich or richer than any individual in Britain. What are these woodlands? They consist of about ten thousand acres of land, planted in great part upon barren moor land, the aggregate value of which was a very few hundreds per aunum! How different our Administrations manage these things! We are at this moment almost dependent on foreign Governments for permission to buy the timber which, with hardly any cost, we could produce in the same way that this princely fortune has been founded. To show the relative value of an acre of Larch in the north of Scotland with one of oak in the New Forest, or that of Dene, we will take the mountainous declivities of the Grampians, at 2s. per acre; we take this value. which is very high, because Governments always purchase dear, and because only the ground best suited to the purpose should be selected. Land, which would produce Larch admirably in the Grampians, is worth not more than 6d. per acre of annual rent.

"By devoting 100,000 acres, which is about the size of the larger Highland estates, to this purpose, we should in seventy or seventy five



years, proceeding on the calculations of the Duke of Athol, that in the same period his forests would be worth five to six millions sterling, be possessed of national capital to the amount of fifty to sixty millions in timber alone, besides a large tract of mountain pasture, returning an ample annual revenue; and all this with an outlay, in the first instance, comparatively trifling. It is needless to observe, that this immense result cannot be obtained, or even the entire foundation laid in a moment, but must be attained by steady and systematic perseverance, like that of the individuals above mentioned, who hath bequeathed us so noble an example. By the creation of forests on this scale, we should make some reparation for the consumption and destruction of the vast mineral treasures, on which vital staple of national wealth the operations of this generation will, about that period, begin to be seriously felt."—Annals of Natural History.

"The durability of the Larch, when alternately exposed to water and air, was proved by an experiment made in the river Thames, at the suggestion of the Duke of Athol. "Posts," Sir Thomas Dick Lauder observes, " of equal thickness and strength, some of Larch and others of Oak, were driven down facing the river wall, where they were alternately covered with water by the flow of the tide, and left dry by its fall. This species of alternation is the most trying of all circumstances for the endurance of timber, and accordingly the oaken posts decayed, and were twice renewed in the course of a very few years; whilst those which were made of Larch remained altogether unchanged." "We had ourselves," says Sir Thomas Dick Lauder, "occasion to erect a footbridge to a pleasure walk over a sunk road, and this we ordered to be constructed of two long stretching beams, covered transversely with Larch planks. In 14 or 15 years afterwards, we discovered symptoms of decay in the bridge, and ordered the carpenters to new plank it; but, when he came to carry our directions into execution, he discovered that the whole planks were quite sound with the exception of three; and that these three, which were rotten almost to powder, were Scotch fir planks, which had been taken in a hurry at the time the bridge was built to supply a deficiency in the original number of the Larch planks."

In railroads, it is found to form excellent sleepers, and so great was the demand for it in 1836 and 1837, for this purpose, that it could scarcely be supplied, even with the extensive plantations in Scotland. As live and as dead fences, the Larch possesses peculiar properties, bearing the shears apparently as well as the spruce. Sir Thomas Dick Lauder once saw a very pretty Larch fence in a gentleman's pleasure ground near Loch Lomond. 'The trees were planted at equal distances from each other; and, being clipped, were half cut through towards the top, and bent down over each other. In many instances the top of the one had insinuated itself into that adjacent to it, so as to have become corporally united to it; and, strange as it may seem, we actually found one top that had so inserted itself, which having been rather deeply cut originally by the hedge bill, had actually detached itself from the parent stock, and was now growing grafted on the other, with the lower part of it pointing upwards in the air.'"—Loudon's Arboretum.

THE PEACH TREE, ITS DISEASES AND REMEDIES, IN CONNEXION WITH ITS CULTURE.

BY THE EDITOR.

The season is approaching when the Peach tree, on the open walls, will require close attention, to prevent injuries from insects, from diseases in the foliage, in the stems, and a variety of other evils which might be enumerated. Closely connected with this subject is the thinning of the fruit, an evil more prevalent and fraught with consequences of a far more disastrous nature than is usually supposed. First, then, with regard to the latter object, the season and time when this operation should commence can be best determined by the size of the fruit. The first thinning should take place when the fruit is about the size of peas, and should be performed with care; a small but blunt pointed pair of scissors is often used with advantage, or the finger and thumb, with a small pointed stick, is very well adapted for removing them. At this thinning a few only should be taken. The second thinning should be performed when the fruit is about the size of small gooseberries. If this second thinning could be dispensed with, it would be of great advantage to the trees; but from such causes as overcropping the preceding year, and the multiplied causes which affect the health of the trees, many of the fruit fall off during the season of stoning, so that experience has proved the necessity of leaving a few to be removed at this season. The quantity of fruit that each tree should bear ought to be determined by the state of the tree itself. Sickly and young trees should be allowed to bear fewer fruit than healthy and well-established plants; and in either case, those varieties which produce large fruit, should not be allowed to mature so great a number as those which bear small fruit. Over luxuriant trees should be allowed to bear what is termed a heavy crop; this will moderate their luxuriance, and prove beneficial to the tree itself.

With regard to insects, many are the absurd and ridiculous compositions and plasters which have been recommended by authors, to cure and prevent the prevalent diseases of Peach and Nectarine trees. More ignorance, and not a little of quackery, prevails on this subject, than is connected with any other branch of gardening. To destroy the green and black aphis, a powerful

fumigation of tobacco leaves is generally effectual. When the trees are in peach-houses, under glass, the garden engine should be applied to throw water on the roof, in order to close up the tops of the glass; and the operation should be performed at night, and the house kept closely shut up till the following morning, When the trees are on walls in the open air, they require to be covered with canvas or tarpauling, and treated in other respects as those under glass. Both require to be well syringed with clear water the following morning. Instead of fumigating with tobacco, the trees are sometimes syringed in the evening, and immediately dusted with Scotch or other cheap and pungent snuffs. The moisture on the foliage causes the snuff to adhere, and also dissolves it, producing a liquid which is speedily destructive to the insects.

The red spider makes its appearance in dry and warm weather on trees in the open air, and in peach-houses when too much heat is kept up without sufficient moisture; it, therefore, follows, that an abundant application of the latter is the only remedy; and it must be applied freely. Peach trees require much attention, to guard them against the attacks of this insidious and most destructive enemy: for it too often happens that it has taken such possession of the trees, as to defy any application to remove it, until it has destroyed the foliage, by rendering it unfit for its ordinary functions.

The scale or coccus is less understood in their natural economy, and, therefore, more difficult and uncertain in their removal. Perhaps the surest, as well as the most simple and effectual methods of destroying them, is by washing them off while the trees are destitute of foliage. This should be done in the spring.

The diseases of Peaches and Nectarine trees are various, and not easily accounted for. They are in most cases the result of improper food taken up by the roots, or imbibed by the foliage from the surrounding atmosphere. The sudden transitions of heat, cold, drought, and moisture, are often productive of silent but fatal consequences to the leaves and tender shoots of the Peach and Nectarine. There are also diseases arising from accidental or wanton injuries, being the effect of injudicious pruning, that is at improper seasons the removal of large branches, making ragged wounds in cutting with a blunt knife, and frequently from the bark being

bruised or torn off; the latter of these evils are within the power of the cultivator to prevent, and the former may be remedied by substituting suitable for unsuitable soil. Borders which were once good and proper may, nevertheless, be exhausted, and from age require renewal.

Mildew, gum, canker, and honey-dew, are effects resulting from some of the preceding causes, and must be treated accordingly. Mildew is the most prevalent of these evils, but is also the most easily contended with. Dusting the foliage and young shoots with sulphur when the trees are damp, and allowing it to remain on, it will gradually ignite by the heat of the sun and burn off this minute fungus without injuring the foliage.

The season is rapidly approaching when the culture of the Peach and Nectarine will become an object of care with many. This being the case, we hope the preceding remarks will be found useful.

EDITOR.

NEW AND RARE PLANTS IN THE METROPOLITAN

Wisteria species, (Query).—A highly interesting plant, closely resembling in foliage and general habit, the universally admired Wisteria consequana. It is a native of Van Dieman's Land, and will in all probability prove quite hardy here. It has not yet bloomed in this country; we have, however, seen a few specimens in a state of rapid growth, and which will doubtless bloom in the course of next season. This desirable plant is extremely rare, and we believe that there is not at present a single plant for sale in any of the London Nurseries. We have seen it at the Clapton Nursery, and also in the collection of the Messrs. Rollinson, of Tooting.

Berberis tenuifolia.—A native of Mexico, whence it was received by the Horticultural Society, from their collector in that country. Its long slender pinnated leaves are of a paler green than the generality of the species belonging to this section of the genus. In general habit B. tenuifolia is certainly one of the most interesting and most ornamental of the genus, and should it prove

hardy, which we fear is very doubtful, it will be a valuable addition to our evergreen shrubs.

Camellia japonica.—Amid the great dearth of novelty which prevails to an unusual extent this month in the Metropolitan Nurseries, we were not a little pleased with the show of bloom in the noble Camellia House of the Messrs. Loddiges, of Hackney, which during this month (April) has been in full perfection. The plants in this long established collection are so numerous, and have attained so large a growth, as to present the appearance of a complete grove or little wood, which, loaded as it is with myriads of lovely blossoms, varying in colour from the pure white of the Alba flore pleno, to the most brilliant red, forms a "tout ensemble," exquisitely rich and graceful. We particularly admired specimens of C. Donkelaarii and C. reticulata, which were blooming in very fine perfection.

Camellia prattii.—We have seen a drawing of this beautiful variety, which is in the possession of Messrs. Low and Co. of the Clapton Nursery. It is of a beautiful dark rose colour; the centre of every petal being beautifully pencilled with white. The flower possesses a great depth of petals, which are round and well set; and in shape the flower is quite equal to the double white. Messrs. Low and Co. received their plants, with the figure, from Philadelphia, in which city this variety was gained from seed. If the flowers of C. Prattii prove at all equal to the representation of them, which we have seen, it will rank among the most perfect and beautiful of the lovely tribe to which it belongs.

Camellia japonica.—Double striped, new variety. The Messrs. Chandler, of Vauxhall, possess, and have at present in bloom, a new variety of the double striped Camellia, which is certainly far superior, in point of brilliancy and distinctness of colour, to the old double striped variety, which is familiar to our collections. Messrs. Chandler received their plant from China, and we have no doubt that very many desirable species and varieties yet remain to be introduced by some enterprising and spirited cultivator, from that rich country.

Genista odoratissima.—One of the many highly interesting and beautiful species collected by Mr. Webb, in the Canary Islands. This pretty plant is now producing its spikes of deliciously fragrant flowers; and with its silvery foliage, and dense elegant habit, forms a beautiful object in the greenhouse.

ON THE CULTURE OF THE TULIP.

BY WILLIAM WOODMANSEY.

As those who are fortunate enough to possess stoves, pits, green-houses, and conservatives, have no need of my simple remarks, there being so many qualified to write for their amusement and instruction; I shall, therefore, endeavour to suit my observations to those who, like myself, have no artificial means at command, except a few simple frames for the purpose of raising cucumbers, &c.; but who, at the same time, love a good flower, and also to have that flower good by their own cultivation. And, if plainness of language can convey the simple process by which this may be secured to my brother florists, the object in view will have been accomplished, and experience whispers it is quite possible.

I cannot comprehend the reason why some writers on the cultivation of the tulip take such pains to cause unnecessary trouble and expense, to say nothing of loss of time, in my opinion a most irreparable loss indeed; they generally begin by telling us to remove the bed completely from eighteen inches to twenty-four inches deep, and then commence making up the bed by putting in about ten er twelve inches of loam, and upon that, about three or four inches of well rotted manure, and then fill up the bed with leam as before. Now, allow me to ask what possible good can the bottom layer of loam do? It must be totally out of the reach of the roots, and consequently useless. And as to the manure, if the roots do at all reach it, which I rather feel inclined to question, I am confident it will do them more harm than good, by causing them to come dirty, and run into colour. Hence, I for one, would dispense with it altogether. I will now, as briefly as possible, tell you my way of proceeding. First, I dig out the bed a good spit deep, twelve inches; this, in my opinion, is quite sufficient, and begin filling up three inches at a time, at intervals of six or seven days, with good rich loam, that has been thrown in a heap for twelve months previously, till the bed is level with the outer surface; this, in a few days, will settle down a little, and allow for a little more loam being put on at the time of planting. The bed is now ready, without a single particle of manure, and will bloom

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almost any tulip, cleaner and more delicate, than the richest and most costly compost in the world. And these two properties are everything in the bloom of a tulip.

I have my bed three feet wide, instead of four, and only plant five rows instead of the usual number seven. I like this mode best, as the bed is much better to weed, and the flowers, when in bloom, are more easily inspected. I plant my bulbs with a dibble, the end of which is about two inches diameter, with fourteen pegs driven into it, four inches from the bottom, to mark the exact depth I wish to make the holes. I then put into each hole a little sand—upon this I plant the bulb, and then add a little more sand, just to cover the bulb, and then fill up the holes level with the top of the bed, carefully putting in the tallies as I go on, to prevent confusion. I then make the surface smooth, and the work of planting is completed.

I now take no further notice of them, than merely keeping them free from weeds, till they begin to push up their flower stems; and even then, I only support such as are not able to support themselves. As to hooping, and matting, I consider it all lost labour; for we seldom have frosts to injure them, after they begin to throw up the flower stalk; and, as for rain, I am of opinion that, unless the soil is very wet in quality, it is difficult to let them have too much water. A friend of mine, after finishing the planting of a bed, had a few offsets to spare, and thinking them too small too bloom, put them into an east border, about eighteen inches wide, upon which the drip of about twenty feet of tiling continually poured its contents during rain, and the result was, that these offsets produced far finer and larger blooms than any that were in the bed. This I saw, or could not have believed it.*

As soon as the flower-buds begin to show colour, of course they ought to be kept from wet, and also from the scorching heat of the sun. I have now, Sir, told you my simple way of proceeding—you are at liberty to make what use of it you think proper; if you think it worthy a place in your valuable Magazine, it is at your service.

WM. WOODMANSEY.



[•] The garden was composed of light garden mould.

RAMBLING REMARKS ON THE TROPÆOLUM.

BY. BELERIUM.

All your readers say, what a delightful plant is the T. tricolorum. Almost all scribblers thereon have described how, under their peculiar culture, the plant had thriven; requiring but just a moderate hotbed, a cool vinery, a warm greenhouse, and three or four other conveniences invariably contingent to the admiration and longing desires of every amateur, and consequently in the possession of every reader you have; besides this, merely a mixture of half-adozen soils, (which should be weighed before used, to insure due proportions), and a few etceteras commendable to every florist, in every locality, are recommended, and then they laud the simplicity of its culture, and very kindly inform the reader that the plant propagates easily, and will soon (or should) be in every greenhouse in the kingdom.

Now, it is rather singular, that, as a set off against the scribblers, the Nurserymen unanimously declare it as a plant of delicate habits, the tuber of slow growth, requiring to be watered carefully, and most difficult to propagate, and with a consistency quite calculated to give their opinion weight, they naturally agree, after the plant has been cultivated for seven years or more, to charge for a small tuber of it, the very moderate sum of seven shillings and sixpence, a price that is beyond the reach of three quarters of the floral public-of course the advice gratis writers are disinterested. when they say the plant strikes freely from cuttings placed in sand-and, of course, also, the Nurserymen are knaves for their attempting to keep the supply limited; and a most meritorious act the propagation and dispensing cheaply a few thousand plants by some advice gratis writer would be-the writer of this, who has few conveniences for propagating delicate plants, would be glad to receive a few in exchange for other plants.

As a climber, this genera is unequalled for variety, beauty, and neatness; and yet possessing such capability as should render its species invariable inmates of every collection; the fact is, that the best sorts are rarely met with, and even the Tricolorum is in the possession of comparatively few persons. Few cultivators can propegate this genera successfully, notwithstanding all that has been

said about it; and large specimens of Tricolorum are seldom met with—the last large plant a friend of mine saw, was in Gloucestershire, and which the nurseryman asked two guineas for, a proof that it is a slow growing tuber, and not common.

I saw several plants of it at Carclew, a few weeks since, and remarking to Mr. Booth, that it is rather an unusual sight to meet with more than a single specimen in a house; he told me that a successful method of propagation had been discovered there by mere accident, two years ago, and by which, as it was a simple method, a few plants could be easily got. He said in 1837, some tubers were received from America, which were put into a large pot, and afterwards in course of potting some other plants, a little earth fell upon the Tropæolum, which was unnoticed for a week or two; but upon removing it, it was found that almost every joint covered had thrown out plants. As this is an available, I hope it will prove a generally successful method; and if so, there will be some good grounds for looking forward to the general possession of plants of the more delicate sorts. The soil should be rather sandy for the whole family, and the tuber if it is desired to increase its size greatly, should not be covered in more than half its depth in planting. Mr. Fox, florist, Penzance, from Mexican seeds has now in flower a Tropæolum, of similar habit to the Tricolorum, the flowers of which are after the style of T. brachyserus, but greatly superior in size, colour, and general beauty-they are of a fine yellow, the lower limb is striped with a dark colour. This will prove to be a valuable addition to the greenhouse, being of free growth, and a most profuse bloomer.

From some experiments recently made, it would seem that the genus is capable of enduring an out-door exposure during the summer, and I look forward to the time when they will become as generally cultivated as half hardy plants, as the Dahlia is now: for I am quite convinced that we have scarcely supposed the capability of the family, and as the culture and propagation becomes known, the acclimatization of seeding, and the impregnation of the more hardy sorts, will induce such improvements, as will render the plant as indispensable to the garden, as it is now to the greenhouse.

I would say to the parlour window, and kitchen window cultivators, that two more beautiful and easily cultivated plants can scarcely be met with, than the double orange Nasturtium, and the

new double dark variety; the latter generally known as the Tropecolum Atorsanguinea floraplena. The former is delightfully fragrant, and both are uncommonly free flowers. The annual sorts are two well known to need any details.

BELERIUM.

Cornwall.

NOTICES OF NEW PLANTS.

MALVA CREEANA. Showy, red flowered Malva.

Pax. Mag.

NAT. ORD. MALVACEÆ. CLASS MONADELPHIA POLYANDRIA.

This plant has been frequently noticed, and obtained a notoriety and interest not at all deserved, for the possession of any excellence, which we have ever been able to discover. It is a plant of moderate beauty; but represented as it is by the highly finished drawing in the work before us, presents an appearance highly beautiful. Its rose-coloured blossoms and rather graceful foliage, are here made to appear exceedingly attractive. In the notice accompanying Mr. Paxton's figure of this plant it is spoken of as a very ornamental plant; but we cannot, from our own experience of it, fully concur in all that is said of it.

EPIPHYLLUM RUSSELLIANUM. The Duke of Bedford's Epiphyllum.
[Bot. Mag.

NAT. ORD. CACTEÆ. CLASS ICOSANDRIA MONOGYNIA.

Most people are acquainted with the flat stemmed species and varieties of the very ornamental section of Cactem, named Epiphyllum. The species under consideration, in general character, approaches nearest to E. truncatum, but differing from that species in the flat leafless stems being more narrow, of a much lighter green, and when we saw it in the collection of his Grace the Duke of Bedford, at Woburn Abbey, it appeared to us of a much more upright habit. The appearance is small, and of a less decided colour than truncatum, an inferior species, but new. It is commonly found on the stems of trees and rocks on the Organ Mountains of Brazil.

In Sir Wm. Hooker's notice of this plant, he observes "we can readily participate in the pleasure Mr. Gardener must have experienced in discovering this beautiful Epiphyllous plant, and dedicating it to his distinguished patron, the Duke of Bedford, a Nobleman who, in the short time of Mr. Gardener's absence (scarcely three years) has amassed such a collection of Cactoid plants at Woburn Abbey as must be seen to be appreciated, and with which none in the kingdom, that I know of, can be compared, except it be that of Mr. Harris, of Kingsbury, near Hendon. In the stoves at Woburn, the great columner kinds of Cereus, thirty feet high, (and especially the noble specimens of C. senilis, two of which have attained to twelve feet, and are clothed with long pendent white hairs,) contrast admirably with the straggling, broad, and depressed forms of the Melocactus and Echinocactus, beset too as they are with spines of every shape and size and colour; again the latter kinds present a most curious difference, from the flattened and jointed stems of the Opuntiæ and Epiphylla, while the magnitude and fragrance of blossoms of some, and the brilliancy of colours in others, are surpassed by few vegetable productions.

A note is added here by Sir Wm. Hooker, stating that while writing the above, information had just been received from Mr. Parkinson, her Majesty's Consul General in Mexico, of the dispatch of another collection, containing

a large assortment for his Grace the Duke of Bedford, including, among other things, specimens of Cereus senilis, still larger than those above mentioned, and two others nearly allied to the preceding, also expected to be new, one being described as downy, and the other spinous. In the same collection there is a Mammillaria of such extraordinary dimensions as to weigh two hundred weight, which required the united strength of eight Indians to convey to the waggon, on which it was brought a distance of one hundred miles to Mexico. The flower is yellow, it having exhibited several buds after it was placed upon the waggon.

CALLICHROA PLATYGLOSSA. Golden Callichroa.

Bot. Mag.

NAT. ORD. COMPOSITÆ. CLASS SYNGENESIA SUPERFLUA.

This is an annual plant of moderate beauty, quite hardy, and nearly allied to Doronicum. The flowers are yellow, with deeply cut foliage.

EPACRIS IMPRESSA VAR. PARVIFLORA. Small flowered pitted Epacris.
[Bot. Reg.

NAT. ORD. BPACRIDACEÆ. CLASS PENTANDRIA MONOGYNIA.

As the name implies, this is a variety of E. impressa, sent to this country by Mr. James Backhouse, who has been engaged for some years travelling on a benevolent mission in New South Wales. It is now suspected that the genus Epacris, especially the species Impressa, and others nearly related to it, are merely varieties of each other. In speaking of E. impressa, Mr. Gunn, a bigh authority on this genus, says "the colours vary from a deep red through all the paler shades of blush to pure white, so that colour constitutes no distinction; the size is also variable." He distinguishes four chief varieties, viz.—1. Red flowering, tall; 2. Red flowering, dwarf; 3. White flowering, tall; 4. White flowering, dwarf; in addition to which many others might be named.

HOYA CORIACEA. Thick leaved Hoya.

ARISTALOCHIA HYPERBOREA.

Bot. Reg.

NAT. ORD ASCLEPIADACEÆ. CLASS PENTANDRIA DIGYNIA.

A scarce plant, requiring the temperature of the stove, and to be grown on the trunks of trees. Those of our readers unacquainted with the genus will, perhaps, understand us better by saying, that this is a kind of honey plant, familiar to most persons, with its waxy white flowers, and often grown in windows. The Hoya coriacea appears to be a thicker foliaged plant, stronger in its stem, and perhaps less inclined to become a twiner or creeper than the common honey plant.

This new Hoya flowered for the first time in this country in the stoves of Messrs. Loddiges, of Hackney. It is a native of Manilla, and was sent home

by Mr. Cunningham. Its flowering season is August.

Pax. Mag.

NAT. ORD. ARISTOLOCHIACEÆ. CLASS GYNANDRIA HEXANDRIA.

Northern Birthwort.

This is a curious and beautiful plant, supposed to be a native of the northern districts of India. In this country it requires the temperature of the stove. It has been cultivated for some time in the collection of Mr. Knight, of the King's Road, Chelsea, where it flowered during the past year. It is a twiner, running to a considerable length, the foliage heart-shaped, and the flowers somewhat resemble the singular form of the pitcher plant, but having a long and curiously formed lip, are of a yellow and brown colour. We have known several species of this genus requiring the temperature of the stove, but have always found them exceedingly difficult to bloom.

PENTSTEMON BARBATUM VAR. CARNEUM. Flesh-coloured bearded Pentstemon. [Bot. Reg.

NAT. ORD. SCROPHULARIACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

To persons possessing some knowledge of plants, the subject of this plats will be better understood, when we say it has just received a new name from

Dr. Lindley, who has classed it, and, we think, very properly, amongst the pentstemons; but the same species has long been known in gardens under the name of Chelone barbatum, and the figure before us represents a flesh-coloured variety of the species.

It is a hardy herbaceous perennial, growing from two to three feet in height, and flowering in July and August. The habit of the plant is upright, with opposite narrow lance-shaped leaves, and of a deep green colour. The

flowers are of a yellow flesh colour.

RUELLIA CILIATIFLORA. Fringe flowered Ruellia.

Bot. Mag.

NAT. ORD. ACANTHACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

This is rather an ornamental stove plant, with oblong serrated foliage, and flowers produced upon a short pannicle, which are of a purple colour, having five cordate petals, and a spreading disk. It was sent home by Mr. Tweedie, and is supposed to be a native of the interior of Mexico.

BEGONIA PARVIFOLIA. Small leaved Begonia or Elephant's Ear. \ Bot. Meg.

NAT. ORD. BEGONIACE ... CLASS MONŒCIA POLYANDRIA.

The genus Begonia is one familiar to almost all who know anything of plants. Who does not know the B. discolor or Evansiana, blood leaf or beef stake plant, as it is often termed? This popular plant is to be found in almost every cottage window, and the figure now before us represents one of that genus. Small leaves and pale white flowers.

PIMELEA HENDERSONI. Mr. Henderson's Pimelea.

Bot. Reg.

NAT. ORD. THYMELE ... CLASS DIANDRIA MONOGYNIA

Is a very pretty plant, intermediate between P. decussata and P. rosea. It is a native of King George's Sound, and was raised from seeds received from thence by Messra. Eagle and Henderson. This is said to be one of the most ornamental of the genus; and, judging from the plate, we are fully inclined to fall in with this opinion. The colour of the flowers is a light rose. The branches are very thickly set with leaves.

BRASSAVOLA CUSPIDATA. Spear-lipped Brassavola.

Bot. Reg.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a native of Trinidad, imported from thence by John Moss, Esq of Otterspool, Liverpool. We are here told, that owing to the skill of this gentleman's gardener, and the extensive connexions which Mr. Moss possesses abroad, his collection at Otterspool bids fair to rival some of the many collections of orchidaceous plants, of which the country may well be proud. Five species of this genus have already been described by Professor Lindley, of which the one now under consideration is the sixth, and nearly related to B. cacullata.

To those unacquainted with the genus as well as the species referred to, it may be well to say that the B. cuspidata has long ridged rush-like foliage, bearing a few scattered white flowers.

DENDROBIUM FORMOSUM. Beautiful Dendrobium.

Pax Mag.

NAT. ORD. ORCHIDE E. CLASS GYNANDRIA MONANDRIA.

Amongst the genera of orchidaceous Epiphytes none contains a greater number of really beautiful species than Dendrobium, of which we think it quite just to the genus to say, the species now before us is decidedly the most ornamental. The foliage is scanty, being only a pair or so on the summit of a rather tall fleshy stem. The flowers are very large, and nearly white. We are told that this handsome plant was discovered in a district called Pondooah, at the base of the Khoseea Hills, by Mr. J. Gibson, collector to his Grace the Duke of Devonshire, and under whose care it produced its handsome flowers at Chatsworth, during the spring of 1838. Some excellent directions are here given on the cultivation of this genus, the most important of which are those

which refer to a season of rest or the suspension of moisture, but not of heat. In their native localities they bloom in the dry season. This period should commence about the beginning of our winter, and continue for one or two months. During this time the foliage will wither, and not unfrequently drop off, but, at the end of this period, moisture should again be freely supplied, when the flowers and foliage will be most luxuriant.

DENDROBIUM AUREUM VAR. PALLIDUM. Golden-flowered Dendrobium, pale variety. Golden-flowered Dendro-Bot. Reg.

NAT. ORD. ORCHIDEÆ § MALAXIDEÆ. CLASS GYNANDRIA MONANDRIA.

This plant bears dingy white and yellow flowers, and is but of moderate beauty. It is, however, remarkable for its fragrance, having an intermediate scent between that of violets and primroses. It is a native of Ceylon, where it was first discovered by Mr. Macrae, and is now cultivated by Mesers. Loddiges.

DENDROBIUM CRUMENATUM. Sweet club-stemmed Dendrobium.

[Bot. Reg.

NAT. ORD. ORCHIDEÆ § MALAXIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is one of the few novelties which have emanated from his Grace the Duke of Northumberland's collection at Sion House. We say few, because of the very extensive establishment kept up by that Nobleman. The range of Botanical hothouses, if not superior, is at least equal to any thing of the kind in the kingdom. The whole of the gardens are, however, so completely shut up from the public, that even persons in the profession are denied admission, unless an order be first obtained from his Grace. The plant in question is rather slender, with a long tapering pseudo bulb. The flowers are white, with a few yellow marks.

PLANTS NOT FIGURED IN THE Bot. Reg.

CŒLOGYNIA OCELATA.

An orchidaceous Epiphyte, a native of India, with white, yellow, and orange flowers. It has bloomed in the collection of Mears. Loddiges, of Hackney.

DENDROBIUM LINGUÆFORME.

A native of New South Wales, where it is found growing on the trunks of trees, and belongs to the natural order Orchidacess.

SARCOCHILUS OLEVACEUS.

A New Holland Epiphyte of no beauty, having small yellow and green flowers.

HOVIA PUNGENS.

This beautiful plant is of dwarf habit, with narrow leaves, resembling the Rosemary. The flowers are of the most intense blue. It is a native of the Swan River, and was raised by Robert Mangles, Esq. This is a very desirable plant to those who have a small greenhouse.

DENDROBIUM TERETIFOLIUM.

Possessed and flowered by Messrs. Loddiges; by no means ornamental.

THE FOLLOWING ARE NATIVES OF NEW SOUTH WALES.

No species of striking beauty are to be expected from this part of the world, as none of those found by Mr. Cunningham can be considered more than Botanical curiosities.

DENDROBIUM TETRAGONUM.

Found on the stems of small trees, in dry shady woods, Moreton Bay.

DENDROBIUM TORTILE.

On the tops of lofty trees, a hundred feet in height, Moreton Bay.]

DENDROBIUM PYGMŒUM.

Native Illawara, flowers not known.

DENDROBIUM ELONGATUM.

Shady woods, Moreton Bay.

DENDROBIUM PUGIONIFORME.

Rather pretty, from the same country as above.

DENDROBIUM CRASSULAFOLIUM.

Native of the Blue Mountains, never seen in flower.

DENDROBIUM COMPLANATUM.

Native of Moreton Bay, flowers unknown.

CYMBIDIUM IRIDIFOLIUM.

Native of Moreton Bay, and recently alive at Kew.

CYMBIDIUM.

Spines resembling a Vanda, native of Moreton Bay

MISCELLANIES.

DERIVATION OF THE WORD MYRILE.—At Gilan, in Persia, there is a spring surrounded by Myrtle bushes, and held in great veneration. The sacred character of the Myrtle (Murt, as it is called in Persia, from which was borrowed the Greek $\mu\nu\rho\tau\sigma\sigma$) I believe to have originated in the East. Its connexion with the worship of Venus is well known, and it is a curious relie of ancient observances at the present day, wherever the Myrtle bush is found among the Kurdish mountains, (and it is very rare), a sort of mystic reverence is attached to the spot, which the people are altogether unable to explain.—Bot. Reg.

For the information of "Belerium," I beg to transcribe the following passage on raising seedling Cacti from the greenhouse, by Mr. MacIntosh, a work which will well repay your Correspondent's perusal. The following extract appears to have been written by Mr. Beaton, gardener to Mr. Harris, of Kingsbury, and forwarded by him to Mr. MacIntosh. "During the last summer "says Mr. Beaton," a fine collection was brought over by a Frenchman, from Mexico, who lost some splendid specimens through ignorance of the connection between the central column and the plant. Mr. Harris bought some of the best specimens for his cabinet, and very luckily, I got seed out of all of them, and thus preserved them to the country. In young seedlings, sow them in fine sand, keep them constantly moist, and transplant them as soon as you can get hold of them, in sand well drained; give as much heat and moisture as your means will allow, and keep up this stimulus till they have begun to form their woody centre, when they must be more sparingly watered." "We cannot sufficiently commend Mr. Harris for his liberality in possessing himself of these splendid accessions to the Cacti, already known; or Mr. Beaton, for his zeal and intelligence displayed in obtaining seeds from many of the dead specimens of the melon shaped kind. The seeds of these are mostly imbedded in a soft downy matter, which is thrown up from their

top, even long after they are dead, and may also he discovered by cutting the plant transversely across; but so far as we know, this is a discovery to the credit of which Mr. Harris and his gardener are alone entitled. Mr. Harris has in his Herbarium, one species of Cereussenilis, measuring three feet in circumference, and by far the finest specimen ever brought to Europe, from which Mr. Beaton originated above one hundred seedlings by the above means.

THE WATER TREFOIL, OR BOGBEAN .- (Merryanthus trifoliata) .- This plant, which is generally distributed in Britain, growing abundantly in marshy places, peat bogs, and by the sides of lakes and pools, is one of the most beautiful of our native species. It belongs to Pentandria monogynia, of the Linnean system, and to the natural family of Gentiansee. The root is perennial, long and creeping jointed, and sends out numerous verticillate white fibres. The leaves are alternate, petiolate, ternate, the leaflets obovate, thick, smooth, and deep green. The flower stalk rises to the height of from six to ten inches, and supports an oblong or conical raceme, of numerous beautiful flowers, which are pentapetalous; the corolla, previous to expansion. rose colour externally, afterwards reddish white; the petals on the inner surface covered with numerous fringe, like white filaments. All parts of this plant are extremely bitter, and in some countries it is used as a substitute for hops, in the preparation of ale. The root, although almost equally bitter, Linnaus informs us, is dried and powdered by the poorer people of Lapland, to be made with a little meal, into a coarse unpalatable bread. In this country the plant is not applied to any use, if we may except its occasional employment in some parts of the north of Scotland, as a purgative for calves. Formerly, it was much employed in various chronic diseases, as scurvy, dropsy, jaundice, asthma, and gout; the paroxysms of the latter of which complaints it was supposed to keep off, but at present it is neglected on account of the preference given to gentian and other bitters. There can be no doubt, however, that as an astringent and stomachic, it is equally powerful with many exotic plants.

THE MISLETOE-(Viscum Album.)-This singular and celebrated plant is an evergreen shrub, insinuating its radical fibres into the wood of the trees on which it grows. Its branches are numerous, regularly dichotornus, smooth, and yellowish green; its leaves oblong entire striated opposite, on short stalks, the flowers small, axilar, in close spikes, the calyx of the male flower divided into four ovate equal segments, the anthers four attached to the calyx, which in the female flower is divided into four small ovate leaves, and placed upon the oblong three-edged germen, which is surmounted by a blunt and somewhat notched stigma, the fruit a globular white, smooth, one-celled berry, containing a fleshy heart-shaped seed. It is supposed to be propagated by the Misle Thrush, and Fieldfare, which are said to eat the berries, of which the seed passes through them unchanged, and adheres to the branches of trees, where it germinates. There is no proof of this, however. and it has been observed that the roots are always inserted on the underside of the branches; but this again is accounted for by the action of the rain, their pulp is so slimy and tenacious, that if they are rubbed on the smooth bark of almost any tree, they will adhere and produce plants the following winter. It was formerly in great repute, as a remedy in epilepsy, but is now entirely disregarded. If we add to this, that the Druids attributed to it the most astonishing virtues, we have all that can be said in its favour. At the present day, it is not employed in medicine, and attracts attention merely on account of its peculiar habit and aspect .- Edinburgh Journal of Natural History.

THE PRINCE DE ROHAN POTATO.—In the Quarterly Journal of Agriculture, is the copy of a letter written from Geneva, by Prince Chas. de Rohan, to M. Jacquemot Bonnesont, Annoney in the Ardrche, which is as follows:— "I send you, through my friend, M. Romilly, the potato which I promised

you, and to which my name has been given in this country. The history of this potato is not less singular than the potato itself; he who obtained it from seed four years ago, shews it, but will not give it to any person—he has refused it to King William; he has cultivated it in a walled enclosure; he only wishes to see it in perfection; and the seed of the following year he makes them to be taken up in his presence, keeps them under a lock and key, and to be cooked for himself and cattle before his face; it is with great difficulty I have been able to obtain two tubers. This exclusive amateur having learnt that I had some Cactuses, which he wished to have, begged me to give him some. I wished no money, but very much to have some of his wonderful potatoes. He gave me two of them, and made me give my word of honour that I would not send any of the produce to Holland, Belgium, England, Prussia, or Germany; bappily he has not thought of Switzerland or France, for without this omission, I could not have had the pleasure of offering them to you. This is the mede of cultivating this potato. The earth is dug to the depth of twenty inches, make the distance between the holes four feet, and put two or three eyes or sets in each hole, earth up frequently; the stalk reaching six or seven feet high, should be supported on transvere stakes; this kind being late, the tubers, which are very farinaceous, should be taken up about Martinmas, when the stalks wither. To give you some idea of the extraordinary produce of this potato, I quote three examples at random. D E. Martlil, at Alias, gathered last autumn, tubers, weighing 13lbs. 7oz.; 11bs. 9oz.; and 9lbs. 13oz. M. de Mentet, proprietor near me, asked for tubers, when I could not give him more than a small tuber, having four eyes. He weighed them for curiosity, and found it wanted a few grains to make it a half ounce; however, this tuber being planted, produced 4821bs. The attorney of the Abbey of Auterive Canton of Fribourgh, to whom I had given two tubers two years ago, and who delighted in his first harvest, after having eaten and given some to his friends, and either before or after, planted the rest, obtained last autumn, six double horse cart loads, and eight scuttles full; it is not the largest tubers that succeed best as seed."-Le Cultivateur, Journal des Progres Agricoles.

Having heard from some friends then travelling on the continent, of the mentioned potatoe, and having subsequently read the above account, I was induced to try by every means in my power, to obtain a few for seed, which I did without success; however, in the autumn of the year, 1836, I was informed by friends living in the vicinity of Paris, that they had occasionally purchased potatoes in Paris, which weighed upwards of 10lbs. each, for which they gave one franc; that they purchased it as a treat, and that cut in slices of about two inches thick, it boiled well, was very farinaceous or mealy, and of fine flavour. The gentleman who wrote me this account of the potato, having left the neighbourhood of Paris for Spain, previous to his writing, I was at a loss where to obtain some seed, and I applied to one of the first houses in London, to try through their agent in Paris, to get me a few of the potatoes, and after considerable delay, I obtained two small tubers, with the information that they were very dear and difficult to get. About this time I had a friend arrived at Paris to spend the winter, one whose active mind I knew would be rather stimulated than deterred by any difficulty arising in obtaining what I wished—he at once kindly undertook if possible, to procure some Rohan potatoes for seed; and after a great many enquiries, a most diligent search, and considerable expense also in the purchase, he obtained and sent me in a small basket, sixty moderate sized tubers; these I compared with the two tubers I had already received, and found them on inspection, to be exactly the same sort; these tubers though they arrived late in the planting season of 1837, I immediately planted as before described, but being under trees, they suffered severely from the dry weather, yet the stems were eight feet high, the produce was twenty four bushels, full measure, and some of the tubers very large. My object however, being to know what they would produce cultivated with the common field culture, I ploughed in the twentyfour bushels, with a moderate quantity of manure in rows, four furrows apart, or about thirty six inches, on the 10th of May last, 1838, without any other preparation than was bestowed on several acres of potatoes in the same field -they again suffered from the dry weather, indeed to such an extent did my

whole crop appear to be injured, that I had given up the hope of any satisfactory result, and I find by reference to my day-book, it was not till the night of the 10th of June, and the morning of the 11th, that we had any rain sufficient to lay the dust. We took up the Rohan potato, October 18th, and the crop very large; they much amused the persons taking them up, and other observers, by their extraordinary size and produce—many of the tubers weighing from 21 bs. to 31 bs. They are very farinaceous, and delicately flavoured; and I have no doubt, cultivated on good land, and in the way mentioned, they would reach the size specified; of this, we may however rest assured and I can recommend them as yielding the most abundant produce under ordinary cultivation—that the produce is fit for the table of the most fastidious person. One of my old men observed, when he saw the crop lying on the ground, "why, master, I never in all my life saw any thing like this-why they would answer well to cultivate if it was only for the pigs!" And I quite agree with him; I certainly never before saw such a crop, nor potatoes so generally of such a large size; and when we consider that they are excellent in quality, I cannot but think they will prove a desirable acquisition to the public, to whom I now offer them for seed the ensuing season.

The Rohan potato may be purchased at 10s. per bushel, at Trotsworth,

Egham, Surrey, where specimens may also be seen.

G. KIMBERLY.

Trotsworth, Egham, Surrey.

No.

ON THE RAPIDITY OF VEGETABLE ORGANIZATION.—The vegetable kingdom presents us with innumerable instances, not only of the extraordinary divisibility of matter, but of its activity in the almost incredibly rapid developement of cellular structure in certain plants. Thus the Bovista gigantenm (a species of fungus) has been known to acquire the size of a gourd in one night. Now, supposing with Professor Lindley, that the cellules of this plant are not less than the one-two hundredth part of an inch in diameter, a plant of the above size will contain no less than 47,000,000,000 cellules, so that supposing it to have grown in the course of twelve hours, its cellules must have been developed at the rate of nearly 4,000,000,000 per hour, or of more than 96,000,000 in a minute. And when we consider that every one of these cellules must be composed of innumerable molecules, each of which is composed of others, we are perfectly overwhelmed with the minuteness and number of parts employed in this single production of nature.

When bees begin to build the hive, they divide themselves into bands, one of which produces materials for the structure, another works upon these, and forms them into a rough sketch of the dimensions. All this is completed by the second band, who examine, adjust the angles, remove the superfluous wax, and give the work its necessary perfection; and a third band brings provisions to the labourers who cannot leave their work. But no distribution of food is made to those whose charge in collecting propolies and pollen, calls them to the field, because it is supposed they will hardly forget themselves, neither is any allowance made to those who begin the architecture of the cells. Their processes is very troublesome, because they are obliged to level and extend, as well as cut and adjust the wax to the dimensions required; but then they soon obtain a dismission from their labour, and retire to the fields, to regale themselves with food, and wear off their fatigue with a more agreeable employment. Those who succeed them, draw their mouth, their feet, and the extremity of their body several times over all the work, and never desist till the whole is polished and completed; and as they frequently need refreshments, and yet are not permitted to retire, there are waiters always attending, who serve them with provisions when they require them. The labourer who has an appetite, bends down his trunk before the caterer, to intimate that he has an inclination to eat, upon which the other opens his bag of honey, and pours out a few drops; these may be distinctly seen rolling through the whole of his trunk, which insensibly swells in every part the liquor flows through. When this little repast is over, the labourer returns to his work, and his body and feet repeat the same motions as before,—Insect Architecture.

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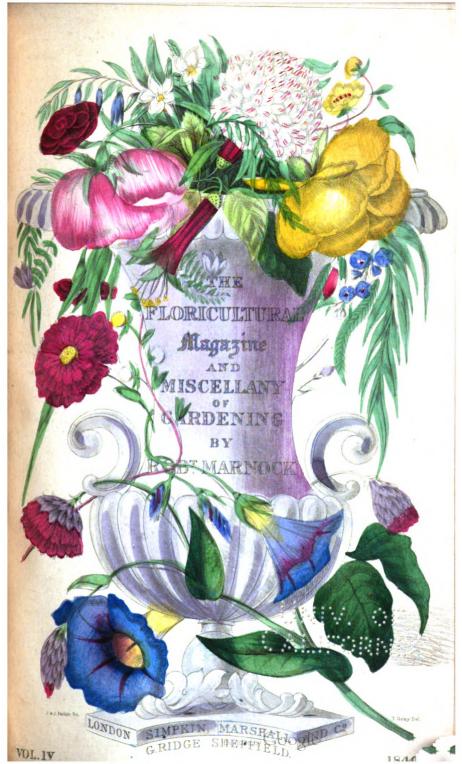
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AND

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ROBERT MARNOCK,

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FLOR!CULTURAL MAGAZINE,



AND MISCELLANY OF GARDENING.

NO. XXXVII.—JUNE, 1839.

ORIGINAL COMMUNICATIONS.

ON THE TREATMENT OF THE CARNATION.

BY EVEN HIRST, GARDENER, CAUNTON MANOR, NEAR NEWARK.

The Carnation has long been regarded as one of the choicest of florist's flowers, nor is it at the present day less esteemed than at any former period. It has engaged my attention and care for many years, and the treatment which I have pursued with it, has been various, partly with the view of experiment, and partly the result of observation; and, although the plan which I have adopted, and in most instances practised, and which I believe to be the best, according to my own observation, nevertheless, I am prepared to expect that the same plan may, in some instances, be attended with different results in the hands of others. At the proper season, the layering is performed in the usual way, and towards the approach of autumn, they are lifted, and four or five plants put into quart pots, around the circumference of the mould.

The compost which I use is comparatively light; immediately after potting, they are well watered, and placed in a close frame and shaded: to those who have not the convenience of a frame, a shady sheltered situation should be selected. After having been shaded about ten days, they will bear full exposure to the sun; but to prevent injury from heavy rains, the glass should be placed over the plants during the night.

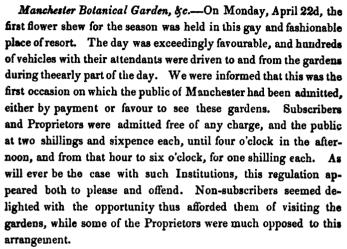
On the approach of winter, the pots are plunged in coal ashes, this is, of course, within the frame, and has the effect of preventing the pots from drying, as well as to guard them against severe frosts. They remain in this situation till the following March, they are

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then more fully exposed to the air, and, about the first week in April, they are then finally removed into the pots in which they are intended to flower, some I place into what in this neighbourhood is termed one, two, and three peck pots. In the former, I only put two plants, and in the latter I put four plants. I however, very much prefer the former, as the roots run much more freely in pots comparatively small, when they can easily reach the sides. Drainage is an essential consideration in the culture of the Carnation; in order, therefore, that the water may escape from the earth in the pot with great readiness, I use about three inches of broken pots or stones; these are first placed in the bottom of the pot, and, to prevent the earth mixing with this drainage, it is covered with a little moss or some other similar substance. The compost which I have, by long experience, found best calculated to grow the Carnation, is, as near as I can describe it, six barrow loads of strong loam, three ditto of three year-old manure, and two barrow loads of river sand, these I mix about six months previous to its being wanted, and, during this time, it is frequently turned. When all are potted, I then remove them to a situation where they are sheltered from the north winds; as the season advances, and the rays of the sun become powerful, I then remove the pots where they receive partial shade from the mid-day sun, and, in this situation, they are then allowed to flower. As soon as the flower stalks begin to grow, the stakes are placed in the centre of the pot, and the stems secured by ties of matting, according as they advance, about the time the buds begin to be formed. I place some finely broken manure on the surface of the pots, being watered through this, it greatly invigorates the plants and strengthens the blooms. When the buds are nearly ready to expand, I assist them by using a sharp knife, to part the extremities of the calyx, they then burst much more freely. I also find it to be of the utmost consequence to protect the calyx from bursting, by tying a piece of matting neatly round its centre; some flowers will bloom without this precaution, but by far the greater part of them require it. As soon as the bloom begins to expand, I shade the flowers with paper capes. It will hardly be necessary to say that the season of blooming is the proper season for layering.

EVEN HIRST.

NOTES BY THE EDITOR, MADE DURING A GARDENING TOUR.



The evergreens in various parts of the garden, where exposed to the west winds, had suffered much from storms of wind, which visited this part of the country with peculiar severity during the last autumn: common and Portugal laurels in exposed situations, were almost denuded of every vestige of foliage. This was also the case with Arbutus Pinus Rhododendrons, and other evergreens. The trees and shrubs throughout this garden are now beginning to exhibit something of their natural character. botanical range of hot-houses are well furnished with many fine specimens. The walled kitchen garden, containing two or three acres, is filled with fruit trees, and the walls pretty well covered with the newer and finer kinds of pears. Two of the south walls, about an hundred and fifty, or two hundred feet in length each, are covered with glass. One of these ranges is occupied with peaches, nectarines, &c.: the other is devoted to the culture of pine apples, grapes, and also some peaches and nectarines. There are also in this garden three propagating or nursery houses, for the rearing of seeds, geraniums, and tender stove plants.

This is unquestionably the most complete establishment, taking the name of a Provincial Botanical and Horticultural Garden in the kingdom: supported also by an income exceeding considerably the annual expenditure of between eleven and twelve hundred pounds. We had almost forgotten the object of our notice and visit to this place, namely, the flower show. The various articles for competition were displayed in one of the greenhouses, which was so crowded with visiters during our stay in the garden, that it was with difficulty we could obtain an opportunity of examining the prize plants and vegetables. There was a good display of Auriculas: the stove and greenhouse plants were not numerous; there were several pine apples, cucumbers, and vegetables, severally good of their kinds; but of the little we were able to see, nothing struck us as remarkable. At the next exhibition, of which we were told there were to be three or four more during the season the accommodation will be much greater; and the want of this would have been less felt on the present occasion, but the workmen employed in the completing of an erection intended for the exhibition, occasioned some delay and disappointment. No exhibition, we believe, of any kind, has been held in this garden since 1836.

Mr. Skirving's Nursery at Walton, near Liverpool. - This is one of the most complete provincial nurseries we know: we speak more particularly of the ground and stock of hardy trees and shrubs. The greenhouses are not extensive, but they contain many good things. Amongst others, we noticed several new varieties of Verbena, some of which were very distinct from any thing we had previously seen; but the most remarkable feature in this nursery is the stock of Araucaria imbricata. It is usual for nurserymen who obtain a large stock of any choice and valuable plant, to conceal the fact from the public, until they are ready for sale; but as this has not been attempted here, we do not feel that we shall be making an improper use of our observations at Walton, by any remarks we may have to make respecting this plant. The stock of young plants which we saw, might be about three or four hundred, and we believe this was not the whole of the stock. They are about two or three inches in height, in a very healthy and thriving condition. That the Auracaria imbricata, is the most interesting hardy tree that is at present cultivated in British gardens, will be at once admitted by all who have any idea of its character, or had an opportunity of inspecting the

plant at Kew. The native country of the Araucaria, is the Andes of South America: it is found in large forests in the mountains Caramavida and Naguellenta, in Chili. The general aspect of this part of the country is rocky, and in some parts boggy: the latter circumstance is owing to the abundance of snow and rain which falls in these regions. The Corcovado, a mountain in the vicinity of Chiloe, is said to be studded from its foot to the snow line, with this beautiful tree; it has attracted the attention of various travellers, but none has invested it with more interest than Dr. Poeppig, whose notice of it in his travels in the Peruvian Andes, as quoted in the companion to the Botanical Magazine, is very interesting, and will well repay a perusal. From this paper we make the following quotation:--" When we arrived at the first Araucarias, the sun had just set, still some time remained for their examination. What first struck our attention, were the thick roots of these trees which were spread over the stony and nearly naked soil, like gigantic serpents two or three feet in thickness; they are clothed with a rough bark, similar to that which invests the lofty pillar like trunks of from fifty to two hundred feet in height. The crown of foliage occupies only about the upper quarter of the stem, and resembles a large depressed cone. The lower branches, eight or twelve in number, form a circle round the trunk; they diminish till they are but four or six in a ring, and are of more regular formation, all spreading out horizontally, and bending upwards only at their tips. They are thickly invested with leaves, that cover them with scales, and are sharp pointed, above an inch broad, and of such a hard and woody texture, that it requires a sharp knife to sever them from the parent branch. The general aspect of the Araucaria is most striking and peculiar, although it undeniably bears a distant family likeness to the Pinus of our country." The same interesting writer, in describing its properties and uses, says-" the Auracaria is the palm of those Indians who inhabit the Chilian Andes, from latitude 37° to 48°, yielding to those monade nations a vegetable substance that is found in the greater plenty, the farther they recede from the whites, and the more difficult they find it to procure corn by commerce. Such is the extent of the Araucarian forests, and the amazing quantity of nutritious seeds that each full grown tree produces; that the Indians are ever secure from want. A single fruit (Cabeza-a head) contains between two hundred and three hundred kernels, and there are frequently twenty or thirty fruit on one stem." The kernels are about the shape of an almond, but double the size; towards the end of March, the cones drop from the trees, and in the vast forests which they form, the seeds strew the ground in great quantity. They are often brought to Valparaiso for sale, and hence the occasional importations of small packages to this country. These seeds are, however, mostly baked, or are otherwise too old to vegetate, after reaching this country. The Araucaria imbricata, is one of the hardiest of evergreen trees, certainly not less so than the Scotch fir. We have seen plants of the former, which had stood both the past and preceding winters, with as little injury as would have been sustained by the latter, had it been similarly treated; we refer to the exposed and solitary situations in which ornamental trees are usually placed. The sexual organs are produced on distinct plants, that is, the same tree does not produce both male and female flowers; the height of the female tree is reckoned at about one hundred and fifty feet, that of the male about fifty feet. Hitherto this tree has been very scarce, and high prices have readily been obtained for it, varying from two to five guineas or more, according to the size of the plants. To persons who have room and opportunity, we do not know of a more interesting and noble object than the Araucaria. It has been found to thrive in the open air without any protection; even in the northern climate of Aberdeen, in the north of Scotland, so that all doubt about its hardiness is removed.

In the Liverpool Botanic Garden, the effects of the severe westerly winds was very apparent. The common Rhododendrous were almost wholly denuded of foliage, and the remaining fragments of leaves still left on the trees, were quite brown and without life. Mr. Shephard, the Curator, pointed out various genera of hardy herbaceous plants, in the open ground, that had been nearly wholly destroyed with insects, while other genera in the immediate vicinity, were flourishing in excellent health, and uninjured. He attributes this to the newness of the ground. Nearly the whole of the labels for names and numbers throughout the garden, were formed of pieces of slate, about four or five inches in breadth, at the upper end, and tapering to a point at the lower end. No paint

is used, except for the forming of the letters, and the dark-coloured slate exhibits the white colour of the letters to advantage. The collection of stove and greenhouse plants is remarkable for many large and fine specimens of old and scarce plants. In one of the seenhouses we noticed a new plant, with thick lanceolate dark green foliage, in habit much like a Daphina. It had been raised from seed, and we have no doubt it will become a plant of interest; we observed the same species in another establishment in that neighbourhood.

Mr. Cunningham's Nursery, near Liverpool.—A principal feature in this nursery, is a very large stock of hybrid Rhododendrons, Camellias, and Vines. In the open ground Rhododendrons and other American plants also abound. In one of the greenhouses we saw Knight's double Azalea; this will turn out to be a valuable plant, it's being double, as well as being a plant of even ordinary interest, has often been questioned.

Zoological Gardens, Manchester.—This establishment, so far at least as the formation of the ground is concerned, is nearly completed. The site is on the north side of the town, and the ground and locality we think admirably adapted for the purpose. The surface is beautifully undulated, on the side of a gentle declivity, sloping to the south, commanding an extensive view of the country to the south. The erections for the various classes of animals are tastefully arranged and decorated, and judiciously dispersed throughout the ground; these, with various lawns and swelling mounds, covered with trees and flowering shrubs, present an imposing and very pleasing general effect. Mr. Mearns, under whose superintendance the arrangement of the grounds have been completed, is enthusiastically devoted to his profession: nor is his energies confined to the science of gardening, for he has been instrumental in collecting many valuable geological specimens, and has himself made considerable progress in acquiring a knowledge of that interesting science.

In the garden of a private amateur, Mr. Belshaw, an active promoter of floriculture, and connected with various scientific institutions in and about Manchester, was pointed out to us a root of what was said to be Bossiæa linophylla. This plant is treated here as a hardy herbaceous plant; it annually dies down to the ground, and again springs, grows, and flowers most profusely during the autumn.

We examined the crown of the plant, which appeared to be quite fresh, and budding, no protection whatever having been applied to it. The Bossiæa in question, is an old, but one of the most ornamental plants we happen to know; and, we have no doubt, that this and many other plants not less interesting, and belonging to the same country, New South Wales, if fairly tried, would also be found hardy.

Editor.

ON RUSTIC SEATS, LIST OF PLANTS, &c.

BY T. H. MOORE.

The taste for Gardening and Horticulture, which has within a few years been remarkably on the increase, has been the means of bringing about a proportionate increase of the ornamental accompaniments of the flower garden and pleasure ground. Among the most prominent of these, may be mentioned the different kinds of ornamental and rustic vases, held in such great estimation, and which, when placed in appropriate situations, and filled with choice flowers, form very attractive and almost indispensable features of the pleasure ground in the summer months. I shall now endeavour to keep my promise, in so far as regard offering a few remarks on the subject, and will proceed with a short description of those in most general use.

Some of the most rude and economical consist of a box or frame work, of the required size and form, made of stout portions of fir or other wood, roughly fastened together, and placed on a rustic stand, about two feet in height; a few holes are bored at the bottom, to allow the superfluous moisture to drain off, and the outside is cased over with split rods of hazel, nailed on bark outwards, in a variety of forms. A pyramid formed of a series of these, would have a grand and imposing effect.

Of a more refined order, are those designed by Mr. Clowes, of Manchester, which were published in Paxton's Botanical Magazine. These are formed of stout portions of wood, securely fastened together, so as to present an outline of the intended effect; this is afterwards cased over with the outside portion of the wood of larch trees, cut thin, and nailed on, leaving the bark to form the outer surface; externally, they have then the appearance of an uniform coating of rough bark, which is relieved by having lengths of old

and useless cable rope, nailed on in different figures. When neatly finished in this way, and the sides hung with graceful festoons, formed by the pendulous nature of suitable plants, and enriched with the beauteous colour of their flowers, they form very agreeable and graceful objects.

It is well known, that according to the principles of taste, which require harmony of effect, that the artificial decorations which are introduced in pleasure ground, on those parts contiguous to the mansion, ought to partake in a greater or less degree of the style of architecture of the mansion itself. Viewing the present subject in this light, the introduction of the rustic vase on pleasure ground adjoining mansions of modern and elegant structure, would be as obviously in bad taste, "as one of Salvator Rosa's rugged ravines would appear if patched in the centre of the foreground of a classical landscape of Claude;" and, it consequently would follow, that that which was intended, and when judiciously designed and adapted to circumstances, is calculated to add to the interest and elegance of surrounding objects, instead of this, its desired effect becomes a source of repine and ridicule. It is not, however, implied that they ought to be entirely banished from such places, but they should be constructed on more refined and elegant principles, so as to accord with the objects around, and this may easily be attained by using lighter materials, with appropriate mouldings.

The rustic vase seems to be best adapted to suit such situations as the vicinage of small villas, built in the gothic or cottage style, and to conspicuous and suitable places in flower gardens when detached from the mansion; they may be introduced with the most happy and pleasing effect in glades, judiciously intersecting a retired and sequestered walk, where, breaking at once from a dreary privacy into the opening lawn, the mind would be agreeably surprised and relieved by the graceful and pleasing beauty displayed.

But I must hasten briefly to notice the culture and treatment of plants in vases. In the first place they require a rich soil, moderately light, but at the same time retentive of moisture, a mixture of loam of a friable texture, enriched and lightened by the addition of leaf-mould and dung, in a state of decomposition, will, in general, answer well. In putting this into the open space in centre, place a layer of the more coarse and turfy portions at the bottom. In turning in the plants (which should have been previously

hardened in a cold frame) care must be taken to preserve the roots without injury, more especially of the annual kinds; place the highest growing plants in the centre (see list No. 1,) and fill round with dwarfer kinds (No. 2), the extreme edge being finished "with creeping or trailing plants, to decorate the whole with their long drooping branches and pretty flowers." It is hardly necessary to remind the most inexperienced, that constant attention to watering is indispensible; indeed, without attention to this, it would be absurd to attempt the culture of plants under such circumstances.

When judiciously employed and filled with showy plants, there are few appendages to a garden of a more ornamental and interesting nature.

T. H. MOORE.

In the annexed list of plants, which are adapted for vases, I have not thought it necessary to arrange them as to height and colour, as they are so well known.

No. 1.

Plants not exceeding one foot and half, adapted for the centre of vases. Schvzanthus Grahami

> Hookerii Diffusa

Pinnatus bumilis Priesti

Galliopsis Atrosanguinea

Eutoca viscida

Petunias

Alonsoa incisifolia Lotus jacobeus

Verbena. The following are some of the best:

Drummondii Lambertia Aubletia

Pulchella alba Hylandsii

Inelsa

Nivenii or Tenerivides Senecio elegans plena Geraniums

No. 2.

Plants of dwarfer habit, adapted for

Lantana mutabilis sellowi Chamedryfolia

Calceolarias shrubby

Nierembergia Calycina intermedia

Lobelia corymbosa Bouvardia tryphylla Statice puberula Heartsease, in shady situations

Gilea alba
tenuifolia

Collinsia grandiflora Bartonia aurea Leptosiphon rosaceum

densiflorum

Cuphea silenioides Lobelia lutea

cœrule**a** gracilis

Campanula garganica fragilis

diffusa Nemophylla atomaria insignis i

No. 3.

Plants of creeping or trailing habits, adapted for the edges of vases. Nolana atriplicifolia Convolvulus. Varieties

Troposolum atrosanguinea
aduncum

Thunbergia alata

alba
Anagallis All the varieties

Ipomes ditto Verbens melindres Yerbana melindros mejor tweedieana grandiflora arranana Lophospermium scandens

Rhodochiton volubile Maurandia Barclayana lucida Loasa aurantiaca

There are many others equally applicable; but the above are a few of the best, and are within the reach of the humblest amateur.

▲ SELECTION OF THE MOST BEAUTIFUL OF THE ORCHIDA-CEOUS EPIPHYTES AT PRESENT IN CULTIVATION, WITH HINTS ON THEIR MANAGEMENT.

BY Z.

The following remarks will form a brief index to the kind of flowers each plant bears, as well as a guide for the proper cultivation of each individual species.

Acropera Loddigesii.—This is a most singular and interest, ing plant, with habit "quite its own." The flowers are produced on pendent racemes from eight to ten inches long. The flowers are curiously formed, and of a pale brownish-yellow, inclining to green. It is a native of Xalapa, in Mexico, whence it was imported several years ago by that spirited and able Horticulturist, Mr. George Loddiges, after whom it has been named. It requires precisely the same treatment as the Maxillarias.

Eranthes Grandiflora.—This is a very singular plant. The flowers are large, and are produced singly at the top of a radical scape, rather longer than the leaves. The sepals are pale green at the base, and yellow at the top; labellum white. The late Mr. Forbes sent roots of this plant from Madagascar to the Horticultural Society of London, in 1823, but it is yet comparatively rare in our collections. It will grow in good turfy peat broken into squares, mixed with some potsherds, and the pot about three parts carefully filled with drainage. It also succeeds well attached to a piece of wood, with a little moss about its roots, which may be fastened on very neatly with metallic wire. It requires to be cultivated in a strong moist heat—flowers in July.

Ærides.—The two species of this genus, which are particularly worthy of cultivation, are A. affine and A. cornutum. The first mentioned species is at present very scarce, having been introduced but a short time ago by the Messrs. Loddiges, of Hackney. It is said to be one of the finest of eastern orchidaces. The flowers

are deep rose colour, spotted with purple, and form a cylindrical raceme from eight to ten inches long; but they are, unfortunately, scentless. It is a native of Sylhet and Nepal, near Sheopore. Flowers in August. The flowers of A. cornutum, unlike those of A. affine, are not very showy, but delightfully fragrant; they are of a flesh colour, rather delicate, and disposed in a raceme from eight inches to a foot in length. It has been in the country above twenty years, having been first introduced by Roxburgh, from Dacca, and subsequently by Wallich, from Noakott. They should be grown in pots filled with sphagnum moss, chopped fine, and a quantity of small potsherds well incorporated with it. The pots must be carefully and effectually drained, as nothing is more injurious to orchidaceous plants than the water remaining stagnant at their roots. A good heat, and frequent syringing are requisite when the plants are growing freely.

Angracum Caudatum.—This is a most remarkable species, a native of Sierra Leone, whence it was imported by the Messrs. Loddiges. It is rather difficult to grow successfully. The Messrs. Loddiges grow it attached to a piece of wood, which is suspended from the top of their orchidaceous house. The unusual length of its spur, which is about nine inches long, renders this a very curious object when in flower. A. eburneum is another very remarkable species, and though an old inhabitant of the orchidaceous house, it is yet a very rare plant, and is likely to continue so, for it does not, any more than A. caudatum, appear to branch, or provide any means whatever for propagation. It is not uncommon in the Island of Bourbon, where it is found growing upon The late Mr. Forbes discovered it in St. Mary's, Madagascar, and the first plants of it ever introduced into Europe, were by him forwarded from Madagascar to the Horticultural Society of London, where the only specimen that has as yet flowered in this country, produced its fine flowers in November, 1833, and they continued in beauty for nearly two months; they are scentless, but very large, measuring, when fully expanded, five and a half inches in diameter. They are, as the specific name denotes, ivory coloured. It requires to be potted in good turfy peat, broken into squares, and for a moderately sized plant, raised six or eight inches above the line; to ensure good drainage, a sufficient quantity of potsherds must be mixed among the peat. It requires a warm, humid atmosphere. Digitized by Google

Aspasia Varisgata.—This handsome plant is a native of the tropical parts of South America; whence it was introduced three or four years ago. The sepals and petals are red, the latter yellow at the margins, and marked with dark coloured stripes. The labellum is white, spotted with violet. It succeeds well in a hot damp atmosphere, potted in turfy peat, and raised three or four inches above the pot; it is readily increased by taking off any of the pseudo bulbs, with a bud attached, which should be placed in peat in a small sized pot, well drained, and then plunged in a strong bottom heat.

Batemannia Colleyi.—This is an extremely handsome plant, and quite distinct from all other genera. The flower spike springs from the root, and in well cultivated plants produces from eight to fourteen flowers, the sepals and petals of which are brownish purple inside, mixed with green outside. The labellum is white, slightly marked with yellow inside, and red outside. It succeeds well in thoroughly drained pots, filled with turfy peat, and mixed with potsherds. The plant, when potted, should be four or five inches above the line. Imported from Demerara in 1834, by James Bateman, Esq. of Knypersley, a zealous collector and cultivator of orchidaceous epiphytes. The specific name is given in compliment to Mr. Colley, who was Mr. Bateman's collector in Demerara.

Bifrenaria Aurantiaca.—This is rather a handsome species. The flowers being disposed on an erect spike, which rises from the bottom of the pseudo bulbs; the flowers are not large, of a deep orange yellow, mottled with dark brown spots. It is from the same country as the preceding, and requires the same treatment.

Brasavola.—The species of this genus are highly deserving of culture; some of them possessing, when in flower, a powerful but very pleasing fragrance. They are mostly found growing on stones and rocks in open forest glades, fully exposed to the scorching rays of a tropical sun. The flowers of B. cordata and B. nodosa very much resemble each other, only those of the former are but half the size of the latter. They are pale yellowish green, with a white lip. B. nodosa fills the air at night with its delightful odour. B. Perrinii has entirely the habit of B. nodosa, but the flowers are not so large. They are all natives of South America.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Dillwynnia speciosa.—A native, we have reason to believe, of the Swan River Settlements, in Australia, whence seeds were brought to Vienna by Baron Charles Hugel, and from his collection plants of it have been received by several cultivators in this country. The foliage of D. speciosa is small, and of a very dark green. Its flowers are produced in numerous little spikes, which together form a beautiful cluster of bloom. The flowers are about the size customary with this genus, and are of a very rich orange, edged with a lively buff. This highly ornamental plant is now producing its blooms abundantly in the collections of Messrs. Low and Čo. of Clapton, and of the Messrs. Rollisson and Sons, of Tooting; and its brilliant orange flowers, set off by its dark and beautiful heath-like foliage, render it a lovely and attractive object.

Paonia montan papaveracea var. Rubra.—This fine variety is now blooming in several of the nurseries near London, and is one of the best that we have seen. The flower is only semi-double, but the petals are so large and the colour so brilliant, as to render it one of the most conspicuous and showy of the whole tribe. The ground colour is a rich rosy pink, merging at the base of the petals into a deep rosy crimson. There are few plants which make a greater display on the lawn than the several varieties of the tree Pæony, and we must confess that we have often been surprised that the cultivation of them is so very limited.

Hypoxis stellaris.—A tuberous rooted plant, from the Cape of Good Hope, having long linear tapering leaves of a very dark green, and glaucous. It throws up scapes, bearing from two to four large, handsome, star-shaped flowers of a bright yellow colour. H. stellaris is both interesting and ornamental, and appears to thrive equally well in the stove or greenhouse.

Chorozema varium.—This beautiful species, which we have previously noticed under the name of C. elegans, has again flowered in the neighbourhood of London, and has been named "Varium" by Dr. Lindley, who pronounces it to be one of the most beautiful and valuable plants ever received from Australia.

Rhododendron caucasicum album.—So named in consequence of some resemblance which it bears to the much admired R. cauca-

sicum. It is, however, of a much more robust habit than R. caucasicum, and its flowers, which are of large size, are of a delicately pure white, spotted in the upper petals with a pale lemon colour. It was raised by Mr. Cunningham, of Edinburgh, and is yet but very partially known, although possessed of very considerable merits. R. caucasicum album is perfectly hardy, a very abundant bloomer, and an excellent variety for early forcing. When about to expand, the buds are of a beautiful rosy pink colour, which forms an elegant contrast with the pure white of the expanded flowers. The head of bloom is large, the foliage good, and the plant in every respect highly desirable.

Stephanotis floribunda.—A stove climber from the East Indies in foliage and habit somewhat resembling Physianthus undulatus. It produces spikes of elegant pure white flowers, which possess a very agreeable fragrance.

Thunbergia Hawtayneana.—A splendid new species, a native of the East Indies, and forming, without doubt, one of the finest chimbers for the stove which has ever been introduced. The foliage is rather small, cordate, and very glossy, and the flowers are of as fine a blue as those of Hovea celsii. It appears to be a very abundant bloomer. A splendid plant of this lovely climber, as also of the Stephanotis floribunda, was exhibited, for the first time in public, by Mrs. Lawrence, of Drayton Green, at the recent exhibition of the Horticultural Society, at Turnham Green. And we confess that seldom have we been more surprised or delighted with any plant than with T. Hawtayneana.*

Abutilon striatum.—A beautiful malvaceous plant, which may be cultivated successfully either in the stove or the greenhouse. Its flowers are of a beautiful bronze orange, most delicately striped with white, and depend from the axils of the leaves by long, ele-

[* We believe we have incidentally noticed this plant before; we cannot, however, refrain from again adding our testimony in its favour. It is true we have never seen its flowers; we are, nevertheless, familiar with the plant, and, were it never to produce flowers, the habit and foliage would be ample compensation for any trouble required in its cultivation. Two plants of this beautiful climber were raised eight or mise years ago at Bretton Hall, from seeds sent from Calcutta by Dr. Wallich to the late Mrs. Beaumont. The plants were fully established, but afterwards were accidentally lost. From the habit of the plant, we should not be surprised if it were found to succeed in the temperature of an ordinary greenhouse,—ED.]



gant footstalks. A. striatum is of free growth, and well deserves a place in every collection.

Paconia moutan Victoria.—A very beautiful variety, of rather dwarf habit, and whitish foliage. The flower is very nearly pure white, having, however, a slight tinge of pink; and we have no hesitation in recommending P. Victoria as a distinct and desirable variety.

Fabiana imbricata.—A beautiful heath-like shrub, from the Cape of Good Hope, producing abundantly long white tubular flowers, resembling those of Erica Linnea. This will be a valuable acquisition to our collections of hard wooded greenhouse plants.

Tweedia pubescens.—A native of Buenos Ayres, whence it was sent by Mr. Tweedie to Messrs. Low and Co. of Clapton, under the name of Asclepias pubescens. Like T. cœrulea it is of climbing habit, and produces spikes of nearly black flowers. It is an interesting plant, but requires stove treatment.

Daviesia cordata.—A large specimen of this rare and beautiful greenhouse plant is now in full boom at the Clapton Nursery. It is to be regretted that the difficulty which is found in the propagation of this desirable plant, should prevent its accession to many collections, of which it would prove so great an ornament.

At the same establishment we observed a very large importation of seeds from the Swan River Settlement in Australia. Messrs. Low and Co. informed us that the collection consisted of above three hundred distinct species of Chorozema, Hovea, Dillwynia, Daviesia, Pimelea, and other showy genera; all quite new to the country. Many of the kinds are already showing themselves above the mould, and if we may judge by the sample which we already possess of Swan River plants, this collection will be the most valuable ever introduced.

REFERENCE TO PLATE XXXIX.

8. CINERARIA. Quilled flowered Cineraria.

NAT. ORD. COMPOSITÆ. CLASS SYNGENESIA.

This is a seminal production, selected from a great many which have been raised and bloomed in the Sheffield Botanical Gardens. The seeds were collected from the finer varieties of those dwarf and beautiful kinds, first raised and distributed throughout the country by Mr. Henderson, of Pine apple-



Cineraria hinniculus
Digitized by Coogle

os vedi Ospanija

place. The properties of the one now under consideration, and which we think entitles it to the present notice, are its dwarf habit, being under nine inches in height, with a corymb of flowers of nearly equal breadth. The colour of the flower is also good, but its most singular and interesting character is its quilled petals, a characteristic peculiar to this plant alone, so far, at least, as we are aware.

We think it desirable to call attention to this ornamental genera, not less on account of its own claims in this respect, than on that of its connexion with the interesting and important class to which it belongs; most of the syngenaceous plants may be said to be ornamental, and yet, with the exception of a few, they cannot be said to be popular, and in favour with the public. Those genera which have received attention from cultivators, have amply compensated for the trouble bestowed on their improvement; as an illustration of this, we might refer to the Dahlia, to the Chinese Chrysanthemum, and to the Cineraria. Amongst annuals there are many, such as China Asters, Marygolds, Sun-flower, Corcopsis, Calendula, and various others, all exhibiting properties of vast capability for improvement.

NOTICES OF NEW PLANTS.

MATTHIOLA ODORATISSIMA, sweetest Evening Stock.

Bot. Reg.

NAT. ORD. BRASSICACES OR CRUCIFERS. CLASS TETRADYNAMIA SILIQUOSA.

This is one of the Evening Stocks, popularly so named, on account of its flowers becoming powerfully fragrant towards evening; it is a curious plant, but cannot be said to be showy. The foliage is ragged, in appearance not unlike the Dandelion; the spikes of flower are long, but straggling, and the colour is a dull brown or purple. It is a native of the Crimea, and stony places of Eastern Caucasus, and is, therefore, pretty hardy. It flowers in May, and attains the height of ten to eighteen inches, and may be considered a biennial.

No information is given where it may be obtained; but we have no doubt it will be sent out amongst annual seeds next year.

GESNERIA ELONGATA, VAR. GESNERIA ELONGATED, VAR.

NAT. ORD. GESNERIACER. CLASS DIDYNAMIA GYMNOSPERMIA.

Gesneria elongata has been some time in cultivation; at least for the last two years it has been pretty general in collections, having any pretensions to the possession and culture of new plants. It was introduced to the collections of this country by Messrs. Young, nurserymen, Epsom. It is a plant of rapid growth and easy culture, and decidedly ornamental; the flowers are large scarlet, and slightly covered with hairs. It is a sufficient recommendation to this plant, to be enabled to say we saw it cultivated amongst the show plants in the exotic houses of Messrs. Henderson and Son, where no plant is admitted but such as are remarkable for their easy culture, hardiness, and profusion of blossom. In the nursery alluded to, the plants, perhaps nearly a hundred, had been kept in a cold frame previous to the 1st of January, and were then coming into bloom in a temperature of fifty to fifty-five degrees.

ECHINOCACTUS SCOPA, the Broom Cactus.

Bot. Reg.

NAT. ORD. CACTACE Z. CLASS ICOSANDRIA POLYGYNIA.

Succulents are now exciting wide and extensive interest throughout the country, among the lovers of curious as well as beautiful flowers. According to the representation given in the figure before us, the species would appear to be only a few inches in height, oblong, tapering at the two extremities. It is said to have acquired the name of Broom Cactue, from the circumstance of the hairs of the stem being long and stiff, and bearing some resemblance to that instrument. The flowers are spreading, and about the size of a shilling, of a bright yellow, and are produced irregularly near the summit. The flowers were produced in the collection of Thos. Herries, Esq., of Kingsbury.

SALVIA CONFERTIFLORA, Closs-flowered Sage.

Bot. Reg

NAT. ORD. LABIATEE. CLASS DIANDRIA MONOGYNIA.

A native of Rio Janeiro; it was discovered there by Mr. Macrae, while in the service of the Horticultural Society of London. The stems are upright and strong, the leaves are opposite, un short foot stalks, and are broad, rough, serated, and tapering to the extremity. The flowers are produced in whorls, on spikes of some length, are small, and have a lurid red appearance. Dr. Lindley says "it belongs to a small section of the genus, with short woolly flowers, the only other species of which as yet in gardens, is the Salvia leucantha, of Mexico." Its flowering season is autumn, when its bright and numerous flowers, render it a very conspicuous and beautiful object. It requires the protection of the greenhouse, but will probably succeed in a warm border during summer.

TRICHINIUM ALOPECUROIDEUM, Fox-tail Trichinium. | Bot. Reg.

NAT. ORD. AMARANTHACEE. CLASS MONADELPHIA PENTANDRIA.

This is the first plant of the genus that has produced flowers in Europe. It is a native of Australia, together with five others which are known to exist in that country only. The stems are upright and branching; the upper leaves are without foot stalks, long, narrow, and slightly serrated. The flowers are produced on spikes of considerable length, of a brownish purple colour, and chiefly "remarkable for the great quantity of delicate knotted hairs with which the densely spiked or capitate flowers are covered. It was raised by Robert Mangles, Esq., of Sunning Hill, from Swan River seeds. It is a balf hardy annual, flowering freely in the open border during the summer months.

GALACTODENDRON UTILE PALO DE VACA, or Cow Tree of the Caraccas.

NAT. ORD. URTICER.

A coloured portrait of this tree is given in a folding sheet of the Botanical Magazine, copied from a sketch taken on the spot by Sir Robert Kerr Porter, H.B.M., Consul General at La Guayra, and the foliage is said to have been taken from a living plant in the Glaszow Botanic Garden. The general aspect of the tree very much resembles the Star Apple Tree, Chrysophyllum Cainito. The leaves are thick and leathery, and about ten inches long. The bark is of a dark brown colour, with numerous white spots. It is probable that in natural affinity, the Cow Tree is related to the genus Chrysophyllum. Incisions made in the trunk of the former, are followed by a profuse discharge of gluey and thickish milk, free from all acridity, and exhaling a very agreeable balsamic odour. To a certain extent this is also the case with Chrysophyllum Cainito; the tree even in a cultivated state, has a milky juice, which flows freely when the leaves or bark are broken off.

In speaking of this tree, M. de Humboldt says—" For many weeks we bad heard a great deal of a tree whose juice is a nourishing milk. The tree itself is called the Cow Tree, and we were assured that the negroes on the farm, who are in the habit of drinking large quantities of this vegetable milk, consider it as highly nutritive, an assertion which startled us the more, as almost all lactescent vegetable fluids are acrid, bitter, and more or less poisonous. Experience, however, proved to us during our residence at Barbula, that the virtues of the Cow Tree or Palo de Vaca, have not been exaggerated." The milk, he says, "was offered to us in calabashes, and though we drank large quantities of it, both at night before going to bed, and again early in the morning, we experienced no uncomfortable effects. The viscidity of this milk alone, renders it rather unpleasant to those who are unaccustomed to it. The

negroes and free people who work in the plantations, use it by sooking bread in it, made from Maize Manioe Aropa, and Cassava, and the superintendant of the farm assured us, that the slaves became visibly fatter during the season when the Palo de Vaco yields most milk. In reference to this tree, M. Brede. mere says, "I own that amid the great number of curious phenomena which offered themselves to my notice during my travels, there was hardly one which struck my imagination so strongly as the sight of the Cow Tree. Every thing which relates to milk, all which regards the Cerealia, inspires us with an interest which relates not solely to the physical knowledge of things, but seems to be allied to another order of ideas and feelings. We could hardly suppose that the human race could exist extensively, without some farinaceous substances, any more than the protracted weakness of the human nursling can be supported without the nutritive fluid of its mother's breast; and to this conviction is attributable the religious kind of reverence with which the amylasecons matter of the Cerealia has been regarded by people both in ancient and modern times, as also the feelings with which we gazed upon the stately tree that I have now described. Neither the noble shadowy forests, nor the majestic current of rivers, nor the mountains hoary with sempiternal snows : none of these wonders of tropical regions so rivetted my gaze, as did this tree, growing on the sides of rocks, its thick roots scarcely penetrating the stony soil, and unmoistened during many months of the year, by a drop of dew or rain. But dry and dead as the branches appear, if you pierce the bark, a sweet and nutritive milk flows forth, which is in greatest profusion at daybreak. At this time the native blacks and others of the neighbourhood hastened from all quarters, furnished with large jugs to catch the milk, which thickens and turns yellow on the surface; some drink it on the spot, others carry it home to their children, and you might fancy you saw the family of a cow herd gathering around him, and receiving from him the produce of his kine."

CIRRHÆA FUSCO-LUTEA, yellow brown Cirrhæa.

Bot. Mag.

NAT. ORD. ORUHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

An erchidaceous epiphyte, with a short pendent spike of white flowers. It bloomed in the Glasgow Botanic Garden during June last. Its native country is Brazil.

LÆLIA FURFURACEA, scurfy-stalked Lælia.

| Bot. Reg.

MAT. ORD. ORCHIDACE & EPIDENDRIE. CLASS GYNANDRIA MONANDRIA.

This is nearly related and much resembles L. autumnalis, noticed below. The pseudo-bulbs are small, slightly furrowed and round; the leaves are also small; comparatively the flowers are very large and of a light rose colour. If It was found near Oaxaca, by Count Karwinski, and is probably not uncommonin collections, large quantities having been received by various persons from Mexico, especially by the Horticultural Society, who have distributed it among their Fellows."

The culture of the genus Lælia, is much like that of the Bletia, requiring great variation of temperature at a certain season of the year. This is peculiarly the case with the Bletia, to cultivate which in high perfection, the bulbs are greatly benefited by being exposed during the autumn to a low temperature. Several roots of this plant have been known to flower most profusely during the winter, after baving been allowed to lay in a rubbish ground for some months of the autumn preceding.

LÆLIA AUTUMNALIS, Autumnal Lælia.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ § EPIDENDRIÆ. CLASS GYNANDRIA MONANDRIA.

This resembles the preceding, differing chiefly in being of stronger habit, and the flowers of a brighter colour. This species is said to be highly fragrant; its native country is Mexico, whence it was obtained by the Hortcultural Society of London: the one in question flowered in the collection at Woburn. Mr. Bateman says, "the genus Leelia may be regarded as one of the most

ornamental of its tribe, since pleasing colours, graceful habit, long durations, and delicious perfume, in short, all the essentials of floral beauty seems to be confined in its various species. Of these five or six are already known, of which the one now represented, however charming it may be, is perhaps the least interesting, for it is surpassed by grandiflora, in the magnitude of its flowers and by L. anceps, and some unpublished species, in the brilliancy of their colours.

COOPERIA PEDUNCULATA, Pedunculated Cooperiu.

Bot. Mag.

NAT. ORD. AMARYLLIDEÆ. CLASS HEXANDRIA MONOGYNIA.

Zephyranthes Drummondi of Don.

Sceptranthus Drummondi of Graham.

This is an interesting bulbous plant, with long slender flexible leaves: the bulb itself is compressed, and of a brown colour, the flowers solitary white, and produced on long slender stalks and peduncles. As has been previously noticed, the generic name has been given to it in honour of our neighbour, Mr. Cooper, Wentworth House, who may be justly designated the father of Orchideous growers. The species in question requires the protection and temperature of a warm greenhouse or stove, and manifests the peculiarity of others of the same genus, by flowering at night. Herbert, who is more conversant, and possesses a greater amount of real practical botanical knowledge of hexandrious plants than any botanist of the present day, in speaking of this plant says " I have been puzzled about the capricious non-expansion of the Cooperias, but I think I now understand them. Increased temperature does not aid, but prevents it, and probably would any nocturnal flower; the thing necessary for its expansion seems on the contrary, to be the decrease of mean temperature. The requisite is, therefore, a given mean temperature, and the decrease which occurs in the evening. In the stove or greenhouse, unless the sun shines all day, there is not that decrease of temperature which causes it to open, and its expansion is sluggish and imperfect; and it so happened that the weather was very cloudy and cold, and when the lights were shut, the house in which this bulb stood, was warmer than it had been in the day. The second was warmer, and the third day still more so: though all cloudy, therefore, there was a greater difference in the evening, which caused these three efforts of the flower. If I had placed the plant in the open air the day before its expected expansion, I am confident that it would have opened flat. Cooperia Drummendi, set out of doors before expansion, opened flat at night, and continued so three days. In the store in cold weather it never opened at all, because there was no decrease of temperature."

There cannot be a doubt that nocturnal flowering plants generally flower in higher perfection in a temperature lower than the average of that in which they have been previously kept. With such plants as are not in pots, and are, therefore, not portable, the experiment may be easily and satisfactorily tried, by cutting off a single flower, and placing it in a glass of water, in a lower temperature than that in which the plant itself is growing.

CALADIUM PETIOLATUM, Long-stalked Caladium.

Bot. Mag.

NAT. ORD. AROIDEÆ. CLASS MONŒCIA MONANDRIA.

Is a native of Fernando Po, discovered in that Island by Mr. Boultbee, Jun., and sent to his father, Joseph Boultbee, Esq. Springfield Knowle, near Birmingham, in whose stove it bloomed in 1832. This is a curious plant, but it is not likely to be cultivated as an ornamental object; it flowers only once a year, and is in other respects unattractive.

PLANTS Noticed but not figured in the Bot. Reg.

DENDROBIUM HEYNEANUM.

An orchidaceous plant, having "a tust of slender clavate stems, from four

to six inches high." "From all sides there appear in the flowering season, sign, der spreading racemes, about three inches long, having each from five to nine smallish white flowers, with a greenish yellow lip, beautifully streaked with violet. They have no smell."

LÆLIA MAJALIS.

A native of San Barbolo, and the adjoining parts of Mexico. "It is one of the most beautiful of the order; a dried flower now before me, of a bright violet colour, measures nearly five inches from the tip of one petal to that of another, and when fresh, I have no doubt the expansion of the flower was as much as six inches." It is said that many plants of this magnificent species have been given away by the Horticultural Society. It is found exceedingly difficult of cultivation.

OCTOMERIA TRIDENTATA.

A plant of no beauty.

POLYSTACHYA AFFINIS.

An orchidaceous plant, of moderate beauty. A native of Sierra Leone. Cultivated and flowered by Messra. Loddiges.

ISOCHILUS LIVIDUM.

A small dingy flowered plant, a pative of Mexico.

DENDROBIUM MICROPHYLLUM.

"This, the handsomest of the Dendrobia, has been received by Messra. Leddiges from Manilla, where it was found by Mr. Cuming. The flowers are nine inches in circumference, and will probably be still larger when the plant becomes more healthy. The sepals and petals are of a clear and bright rose-colour; the leaves are downy, and deeply stained with two large broad blood-red blotches at its base."

CATTLEYA SUPERBA.

This is represented as a magnificent species, sweet scented, and a native of British Guayana. It is not quite so large in the size of the flowers as the C. mossies, but in richness of colouring is inferior to none.

DUTZIA CORYMBOSA.

A hardy Himalayan shrub, with small white lemon-scented flowers. Dr. Lindley says, "on one branch, eighteen inches long, of a dried specimen of this plant, I counted seven clusters, each of which had on an average forty blossoms." It was received under the name of D. Canescens.

EPIDENDRUM GLUMACEUM.

An orehidaceous plant, a native of Brazil, resembling E. fragrans, but differing from that plant in the colour of the flowers, which are white, delicately striped with pink. We think the latter a very slight and trivial distinction. The plant in general cultivation, and known by the name of E. fragrans, has white flowers, with the lips delicately streaked with pink or purple.

GOVENIA GARDNERI.

A native of the Organ Mountains. The flowers are white.

SACCOLABIUM MICRANTHUM.

This is an orchidaceous plant, of small size, with pale violet-coloured flowers. Flowered by the Messrs. Loddiges.

ABUTILON STRIATUM.

A greenhouse shrub of great beauty and of easy culture, "being covered all the year long with a profusion of bell-shaped orange flowers, veined with crimson, and dependent from long slender stalks."

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CYRTOCHILUM STELLATUM.

This is stated to be a noble species, nearly related to C. flavescens, but is four times as large, with more white in the flower than in that species. It has flowered with Mr. J. Youell, Nurseryman, of Great Yarmouth.

EYSENHARDTIA AMORPHOIDES.

Will prove a valuable addition to our hardy shrubs. It is a native of the Mountains of Mexico, where it assumes the habit of a small tree. The foliage is delicately pinnated, resembling those of an Acacia. The twiga are short, and so closely set upon the branches, as to form a dense mass of foliage. Each twig is terminated by an erect compact spike, from two to three inches long, of white or pale yellow flowers, which, although not larger than those of a Spirma, nevertheless, from their abundance, must produce a beautiful appearance.

REVIEWS AND MISCELLANIES.

The following Works are briefly noticed by Dr. Lindley, at the close of the Number of the Botanical Register for May. Genera Plantaraum, by Dr. Endlicher, of Vienna, a learned man, and an excellent Botanist.

The last Genera Plantarum that was published, previous to the present, was by Jussien, in 1789. During this long interval, the science of Botany has grown from a dwarf of "Lilliputian dimensions, to the stature of an Anak." The number of genera recognised by the latter author was under 2000; the number is now not less than 8000. Dr. Lindley observes, with reference to this great work, "the period of its completion will form an era in the history

of Systematical Botany."

Simultaneously with this work, Dr. Endlicher is publishing an Iconographia Generum Plantarum; or, illustrations of the Genera described by him. Independently of the other important materials, of which Dr. Endlicher is able to avail himself for this work, he has access to the beautiful series of drawings of New Holland plants, executed by Mr. Ferdinand Bauer, during Flinders's expedition, and bought by the Austrian Government upon his death. The originals are some where in this country, but where deposited it is not at present known. In 1813, an attempt was made by Mr. Bauer, to publish them in this country, but he did not meet with sufficient support, although the plates were engraved by his own hand, in the most skilful and beautiful manner. Dr. Lindley very properly remarks here; "it is impossible, not to feel it a national diagrace, that such valuale materials, collected at the cost of the English Government, should only make their appearance nearly thirty years after their acquisition, and then by the energy and zeal of a learned foreigner."

In a letter from Mr. Gardener to George Waites, Esq., of Newcastle, and written among the Organ Mountains, at an elevation of 3,100 feet, he says, although this is the summer season, the thermometer has never been higher than 54; in the shade at noon, it ranges from 68 to 75, and is seldom higher; and after some days of continued rain, he had observed it as low as 62. In the winter season, he found it descend as low as 32. European vegetables grow pretty well, as well as some of the fruits, such as the Apple, the Fig, the Grape, the Olive, and the Peach. The Tea plant succeeds well, but it is too cold for the Orange and Coffee; although the plants themselves grow luxuriautly, the fruit does not attain maturity.

It appears from a review of a work entitled "A Flora of North America," by John Tory, that the well known and highly ornamental shrub, so current under the name of Ceanothus azureus, and said to be a native of Mexico, is

incorrect. It is the Ceanothus thyrsiflora, of Eschscholts, and is a native of California. We mention this, not that we attach much importance to the fact, that the plant has passed under an improper name, but rather to caution our subscribers against what may have the appearance of fraud. It is probable, that from the interest which this beautiful shrub has excited, that in the event of the proper name being given to it, and recommended as a very beautiful shrub, it is not unlikely, under such circumstances, to pass as a new plant, and to find its way into collections where it already exists under the former name; all this may happen without any intention to deceive, and yet the disappointment be equally great.

A friend from Edinburgh mentions something of a plant under the name of Grevina avelana, and says it resembles the Mahonias, and is an hardy evergreen. We should be glad to hear something more of this shrub: if the account be correct, it will be a valuable acquisition to this interesting class of plants.

In an article on the acclamatizing of plants in British Gardens, by N. M. T. in the Gardener's Magazine for May, are some excellent practical remarks on the subject. The writer says, that all that has been written on the subject of acclamatizing, may be regarded as of little value; and this is true, so far as the establishing of a principle adapted for general application. contends that in all plants, not excepting those which we are in the habit of terming hardy, their " hardness depends entirely upon the quantity of sap which they contain, and on the resistance which they are capable of offering, at the time, of the matter contained in them becomeing frozen; hence It follows, that a plant in a growing state, with its tissue fully distended, must be a certain victim, however hardy its nature." We do not make this quotation on captious grounds; we cannot, however, subscribe to the whole of the writer's views; as for example, vegetables of many kinds, such as Spin. age, Parsley, with various varieties of the Brocoli and Cabbage tribes, Turnips, Salading, &c. are repeatedly frozen through during autumn, and not only so without injury, but many kinds of vegetables, cultivated as late crops, make considerable progress, notwithstanding the retarding influence of frequent and severe frosts. It may be said, that in such cases, the tissue is not fully distended; if so, and he wishes to establish this as his principle of hardness, and not that of the plant being in a growing state, which we are quite sure is no certain criterion, it therefore follows, that according to these principles, the hardness or tenderness of plants depends on the amount of sap which the vessels contain at the time they are exposed to the attacks of frost. But here again the difficulty presents itself, that no principle is laid down by which it can be determined, whether a plant contains just that quantity of sap that will enable it to grow, but not so much as will render it liable to injury from frost. We have referred to this part of the paper more particularly, supposing it may be possible that the writer entertained views and ideas of a much clearer kind than those we have been able to gather from his communication.

We have, however, very great pleasure in noticing the latter part of his subject. The soundness of the principle is unquestionable. He says, tender plants growing in the open ground, would resist the frost much more effectually, if the supply of sap were cut off previous to the termination of the growing season. This might be done by using a sharp spade or any similar instrument, to cut round the roots of the plant at a short distance from the centre or stem: by this process, the growth of the plant would be checked, the shoots and buds matured at an earlier period of the autumn, and would, therefore, he better prepared to endure the severity of the winter frosts. This is very excellent, and although the operation must be performed, in a variety of ways, and by those also who possess a practical knowledge of the habits and peculiarities of such plants, as are subjected to this treatment; we are, nevertheless, convinced that the principle is one of unlimited application, and if properly followed up, will be found invaluable.

QUERIES, REMARKS, &c.

SIR,—I shall be much obliged if you, or any of your numerous correspondents will favour me with an article in your excellent Magazine, on the culture of the Cucumber, describing the soil most suitable for it, the beat means of obtaining good and early fruit, and any particulars relative to its successful cultivation. I also should be glad to learn how Cedrus Deodara may be raised from cuttings.

April 27th, 1839.

TIRO.

[We beg to recommend this query to the attention of some of our experienced practical friends, especially around the neighbourhood of Manchester, where the cultivation of the Cucumber has attracted much attention for several years.—Ed.]

SIR,—No family of recent introduction has excited so much interest as the liliaceous plants; and, perhaps, no plants are likely to be of such permanent interest to all cultivators, as the Japanese liliums of Siebold, and which are beyond controversy the most splendid floral beauties of the day. Can any reader of the Floricultural Magazine give a detailed account of the whole of the Liliums at present in cultivation in this country, describing their colour, hardihood, time of flowering, and other particulars, pointing out also their synonyms, and where figured. This would be a paper of great interest to collectors, cultivators, and the floral public at large, and a help beyond praise to all such amateurs as myself, whose time is too limited to hunt through all the botanical works of the past twenty years in search of the wanted information.

Belericm.

(We shall feel very greatly obliged to whoever will have the goodness to supply us with all or any part of the information sought in the above query. It is, perhaps, asking too much from any one individual to give a detailed account of the whole of the Liliums in cultivation, with other particulars connected with their history, &c. If it be too much to expect this from any one person, we may reasonably hope that whoever is in possession of information respecting any of the species or varieties, will have the kindness to communicate with us on the subject. The genus Lilium is indeed an exceedingly interesting one, and any information respecting the species, however unimportant it may seem, is, nevertheless, highly desirable. It is by small acquisitions of this kind, and in this way, that really useful and practical knowledge is acquired.—ED.]

The melencholy intelligence has just reached us of the death of the two Collectors sent out frem Chatsworth to North America, under the protection of the Hudson's Bay Company. Of the particulars of this sad affair we are not informed further than that they and seven or eight other persons were drowned in crossing a river during the autumn of last year. [Since writing the above, we have been further informed that there is no doubt of the fact stated above, but the only particulars which have yet reached this country are, that the unfortunate men, with their assistants, were passing down the river Columbius, and were swamped in passing over one of the rapids. They were within two days' journey of their destination but had accomplished but little, if anything at all, of the objects of their mission.]

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO, XXXVIII.—JULY, 1839.

ORIGINAL COMMUNICATIONS.

LIST OF FLOWERING PLANTS, THE MODE OF PLANTING. &c. BY SAML APPLEBY, NURSERYMAN, DONCASTER.

This being the season of the year for filling up flower borders with annuals and greenhouse plants, I will, if you please, give a few observations upon them; and also give a list of such as are most desirable for summer decorating. In selecting plants for this purpose, it is necessary to know something of their habits; they may be creepers, that is, creeping close over the surface of the ground, or of dwarf stiff habit, still not growing higher than a few inches, or they may be plants of taller habit, climbers, &c., some requiring training, others supporting themselves; be which of these they may, they must of necessity be such as will continue flowering the whole of the summer, and even through the autumn, and these are generally denominated perpetual flowering plants. Some of the annuals are of this class, but of these, the greater part discontinue flowering when the seed is perfected; the flowerless plant remaining until the seed is ripe, has an unsightly appearance, and is unfit for the neatly kept flower border; and if it is pulled up as soon as the flowers are gone, a vacancy is left the remainder of the season : quite the reverse with the perpetual flowering class I am about to notice. It is true, the flowering of many annuals may be retarded by cropping off some of their flower buds, or shoots, during the former part of their growth, which makes them keep in a growing state longer, and thereby causing new shoots to be produced, but these sometimes fail to produce flowers. D

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The description of perpetual flowering plants may be classed as follows:-1st, those of dwarf habit, either trailing or upright, are best for planting in front of the borders nearest the edge of the walks. In this class will be found the following, Lobelia erinus, gracilis, lutea, bignoniflora, &c., Phlox Drummondii, campanula fragile, garganica, &., Nereinbergia calycina, intermedia, philicailis Statice alata, puberula, Verbena melindres, var. major, var. latifolia Sabina, S. alba, sulphurea, radicans, &c., Gorteria rigens, pavonia, &c., Heartsease in varieties, Houstonia triphylla, lavigata, &c., Anagallis monelli, monelli major, monelli grandiflora, Anagallis, Webbiana, Phillipsi, Milleri, &c. &c. 2nd, those growing not more than a foot to eighteen inches high, if trained up, but will also make a pleasing variety, if pegged down close to the ground, which, in my opinion, is the safest way of growing many greenhouse plants when turned out into the borders, as the winds cannot so soon break them; they are also more healthy and vigorous by being nearer the earth, and have a greater tendency to throw out lateral shoots, and in consequence, produce more blossom. And also the same description of plant may, for the sake of variety, be both staked up and pegged down; in this class will be Heliotropium peruvianium, &c., Tournifortia heliotropioides, Lotus, Jacobeus, Chieranthus tristis, Malva capensis, Agathæa calestis Antierhinum, Molle, majus carryophylloides, Linaria, several species, Calceolarias, shrubby and herbaceous, Alonsa linearis, urticisolia, &c., Geraniums, Senecio elegans plena, with many good kinds, as white, purple, red, crimson, &c. Lythrum alatum, verbena incisa, Highlandsi, Tweediana, Arraniana, Drummondii Aubletia, Lamberti venosa, pulchella, Niveni, &c., Tropæolum, minus pleno, Cinerarias in great variety. Ænothera missourensis, macrocarpa, taraxafolia, Ononis rotundifolia, Crucianella stylosa, &c., these may be planted at the distance of about from twelve to eighteen inches from the edge of the walk. 3rd, those which exceed the height last mentioned, if trained upright, in which class will be found Fuchsias, Salvias, Cistusis, Sutherlandia frutescens, Ænothera Drummondi, Argemone grandiflora, &c., Linum monogynum, Petunias, Roses, Tropæolum majus pleno, Reseda microphylla, Syphocampelus bicolor, &c. &c. 4th, perpetual flowering climbers which cannot be depended upon to live through our winters, and of course require protection in frames or greenhouses, and may be planted out in May or June. This description of climber grows fast, and is very desirable for covering thellis work, ornamental trainers of every description, or the pedestals of rustic houses, &c. The following are amongst this class Maurandia, Barclayana, and semperflorens, Eccremocarpus scaber, Rhodochiton volubile, Cobea scandens, Lophospermum erubescens and scandens, Loasa aurantiaca, Lonicera flexuosa, Thunbergia, alata, and alata alba, Tropæolum canariense, tuberosum, &c.

Should you consider the above remarks at all worthy a place in your Magazine, I shall feel obliged by its insertion.

SAML. APPLEBY.

Doncaster, June, 13th, 1839.

REMARKS ON THE GENUS TROPÆOLUM. BY T. M.

Whether the jeering observations of your Correspondent "Belerium," is intended to apply to my remarks on the genus Tropæolum, noticed in the 2nd vol. of the Floricultural Magazine, I neither know nor care; I have since pursued the plan there laid down with unfailing success, and, therefore, see no reason to change my modes of treatment. The plant which I then mentioned as having commenced flowering, producd a quantity of seed, from which I have obtained strong healthy blooming plants, by sowing the seed as soon as sufficiently ripe in well drained pots of light sandy soil, which were placed in a shady part of a stove. They require great care in watering, as the seed often remains three or four months in the soil, but under favourable circumstances they will vegetate so as to be potted, and get established by winter; they require to be kept close at first, but a warm greenhouse is the best place during the winter, and if shifting, trellising, &c., be attended to in the early spring months, they will bloom freely in the following summer, after which, of course, their treatment will be the same as other established plants. After the old plant mentioned above, had ripened its seed, (which was about June,) water was gradually withheld till the foliage decayed; the pots were then placed in a dry cool situation till October, when on examining them, they were found to be growing, I, therefore, potted them in fresh soil, and gave a little water: the turfy loam of a sandy nature will suit them well, (see vol. 2;

p. 169,) and they require plenty of drainage. The great art of cultivating Tropæolum successfully, lies in the use of water; this element must at all times be used in moderation, on account of the delicacy and tender nature of the roots of these plants; and perhaps the ill success which attends their culture, may, in many instances, be traced to the improper use of water. The roots are very tender, and liable to sustain injury in shifting; it therefore follows, that they should be potted at once into the pots in which it is intended they should flower. The pots should be rather small, and if set into a larger pot, where the roots may be supposed to require additional support, and the large one filled in with moss and kept damp, (not wet,) would supply nourishment to the plant; the effect of this would not only be neat and pleasing, but the disadvantages of using large pots, with the consequent risk of saturation would be avoided.

The Tropecolums are plants of rather difficult propagation, requiring a very nice adaptation of moisture, both in the soil and atmosphere; and to the want of this, may be attributed the supposed difficulty: for they produce root freely enough in sand, but unless great care be afterwards taken in the use of water at the root, and the preservation of atmospheric moisture, they soon perish. Indeed it may be said, that as far as regards propagation, and the subsequent establishment of the young plants, they require more care and attention than any genus whatever. I will not omit this opportunity of observing that when seeds can be obtained, they form the most permanent and vigorous plants.

These remarks would not have been submitted to your readers at the present time, nor in the present form, but for the paper of your Correspondent "Belerium." I have, therefore, to request, that it may have a place in the next number of your Magazine.

T. M.

May 18th, 1839.

[We hope T. M., will see the propriety of what we have done. The remarkable property of adaptation which almost all plants possess, might, we have no doubt, be turned to account in the Tropscolum. Our Correspondent has justly remarked that there is but little difficulty in so treating young cuttings of Tropscolum, as to make them produce roots; the only obstacle to contend with, is that of keeping them alive during the following winter, owing to the want of sufficient tuber having been formed. When the young plants are rooted and potted off, they are generally kept in a close moist heat, and freely supplied with winers.

thereby preventing the natural tendency of the plant to form tubers. Instead of this treatment, we would recommend that the plants after being putted off, and fully established, should be kept rather dry at the root, but in a moist atmosphere; this would preserve the shoots from decay, and promote the formation of tubers, which would take place on the principle that all plants having the least tendency to become tuberous at the root, are uninfluenced in this respect by the degree of moisture to which they are exposed, that is when found in dry situations they are tuberous; and in wet situations, they continue to produce fibres only We have examples of this in Ranunculus bulbosus, and various grasses.].

REMARKS ON A SELECT LIST OF ANNUALS, THEIR PRO-PERTIES, &c.

BY A POOR COTTAGER.

(Continued from Page 252.)

In conformity to my promise, and in compliance to your request,
I now forward the remaining part of my list of annuals:—

Eutoca visida.—A pretty little plant, with small vivid blue flowers.

Love-lies-Bleeding.—The long and large tusts of these make a graceful appearance during the Autumn months.

German and China Asters.—These, when sown and planted in good soil, and flowering well, are also very showy in Autumn.

Mignonette.—Although this can lay but little claim to beauty, it is generally held in high esteem by females for its fragrance; to them, therefore, I recommend its cultivation.

Enothera.—Of these there are many very good and fine varieties, but the most esteemed, in my opinion, are the Lindleyana rosea-alba and molissima.

Convolvulus, Major and minor.—The former of these require to be sown in a good rich soil, to cause them to grow strong and flower large and fine. As it is a climber, it ought to be supported with sticks 6 or 8 feet high, and even it will ascend above that height.

Collinsia bicolor.—This is rather a new annual of much beauty, and quite hardy, and produces abundance of seed.

Venus nevelwort.—This possesses no very high degree of beauty, but looks well amongst a collection of other annuals.

Kaulfusia amellioides.—Being of a low dwarf habit, it is well talculated for the front of beds and borders.

Nasturtium.—Besides the beauty of its blossoms, it is possessed of another quality to recommend it, and that is, its leaves may be eaten as a salad, and its seeds are an excellent pickle, as all good housewifes well know.

A POOR COTTAGER

ON THE CULTIVATION OF MIMULUS MUSCHATUS.

BY A POOR COTTAGER.

For the introduction of this pretty little plant we are indebted to the unwearied labours of the late unfortunate Mr. Douglas, whose melancholy fate every lover of floriculture must sincerely regret. It is a valuable acquisition to the treasures of the flewer garden, inasmuch as it is calculated to adorn the circumscribed space of the humble peasant as well as the more extended domains of princes and nobles. The soft hairiness of its stems, its bright yellow flowers, and its pure smell of musk, are its three chief recommendations.

I must now observe that I have cultivated this plant for several years, both in pots and the open ground, and much better in the latter than the former. It dies down during the winter months, but on the return of spring, when all nature revives, numerous young ones arise from the old roots; these, when they have attained the height of four or five inches, if carefully taken up, will make good strong plants for flowering the same season; and cuttings will also strike very freely. To flower it in perfection, a shady, damp situation, and peat soil appears to be necessary. As a striking proof of its hardiness, I had several plants that stood the severe winter of 1838 without the least covering over the roots. Query; would not many others of this tribe of plants endure the same? I think it would be worth while for those who possess many varieties to make the trial.

A POOR COTTAGER.

Should life be spared, and health continued, I, perhaps, shall trouble you with a few thoughts on flowering shrubs, at some future opportunity.

[A Cottager's further remarks will be very acceptable; Mimulus muschatus is one of the very best plants for growing in the windows of living rooms that we know, and for standing in niches and tables of entrance italis and lobbies.—Eb.]

NOTES BY THE EDITOR, MADE DURING A GARDENING TOUR.

HULL, JUNE 11TH .- In passing through Tickhill, Dalton, and other towns and villages on this line of road, we were particularly struck with the neat and orderly appearance of the garden plots connected with the various residences; nor is this pleasing evidence of the comfort and habits of industry confined to a particular class, but is common alike to the rich and the poor. We allude more especially to the care with which some of the more free flowering of the climbing roses are trained along the south fronts of the houses, and are now in full bloom; these, with the borders and beds, inimitable in their endless variety of fantastic forms, and all crowded with spring flowering plants, such as pæonies, wall flower, pansies, stocks, Papaver orientalis, with perennial candy tufts, and large patches of Iris germanica. Amongst shrubs and trees, the lilac and laburnum abounded. Habits of idleness and dissipation, it is needless to say, have no fellowship with these things; indeed, a poor man's character may be fully read in the appearance and keeping of his garden.

During the spring months, and early in summer, flowers give rise to emotions and feelings of a far more pleasurable kind than they are capable of exciting at a more advanced period of the season; and this is fully carried out in cottage gardens, by having a profusion of spring flowers, with but few of any kind during autumn:

In a field on the right of this road, near Seriby Hall, the seat of Earl Spencer, we observed Colchicum autumnale, growing in great abundance.

In the afternoon of the same day, we visited the Botanic Gardens, Hull; some additions in glass, and improvements in the walks and borders, have been effected here since our last visit to this place. The garden was in good order and the plants looking healthy. In the lighter class of showy plants, such as Verbenas, Salvias, Petunias, and the like, were many of the newer kinds; amongst these may be mentioned Verbena Tucrioides, V. Neili, V. Edenenses, a new orange-coloured Salvia, which Mr. Smith, the curator, had recently received from London; Statice arborea, the new Clematis Sieboldii, C. azurea grandiflora, also

several plants received some time ago from Captain Ross, brought from the Arctic Regions: among these are some of the species of Pinus, one appearing like Abies alba, or white spruce; and another like Abies claubrasiliana, or the Claubrazil spruce. In the greenhouse we observed a fine specimen of Arucarea Cunninghamia, five or six feet in height.

BEVERLEY, JUNE 12TH.—The East Riding of Yorkshire Floral and Horticultural Society, held their first Exhibition in the Assembly Rooms to day. We have attended many of the provincial Floral and Horticultural Shows in various parts of the country, but with the exception of the two first that were held in the Sheffield Gardens, we have seen none that come at all up to the Beverley show.

We have previously noticed the plan of conducting the Beverley Exhibition. To us the principle is the nearest to what appears desirable, and is the most likely to be satisfactory and permanent of any of the numerous and varied plans with which we are acquainted.

Here no prize money is advertised, and but little temptation is held out for parties to compete, with the view of obtaining valuable prizes. The various classes of plants, vegetables, and fruit, are arranged, examined, and the awards allotted to each with all the care and skill that can be brought to bear on them; but no money is paid to any one till the first exhibition of the following year, when all bills having been discharged, the remainder of the funds is applied as prizes, paying to each competitor in the proportion as he may have done much or little to promote the interests of the Society. The Committee, who takes upon itself this irresponsible duty, consist, for the most part, of Gentlemen who are likely to act impartially. It may not be the case with all, but most of the owners of gardens pay the expenses incurred by their gardeners in attending the exhibition: so that the gardeners generally, are relieved from any personal or relative expenditure whatever connected with exhibitions. On the occasion in question, forty-five principal gardeners dined at the expense of the Society; and, we believe, nearly an equal number of under-gardeners were allowed two shillings each for refreshment. We are informed that the income of this Society is nearly two hundred pounds per annum.

With regard to the exhibition itself, the number of articles exceeded any previous one that we had ever seen here; there were at least thrice the number of Geraniums displayed that we had ever before seen at any other show. Many kinds were well grown. We noticed good plants of Gaines's King, Herricartianum, Rose Mundi, Beauty of Ware, Queen Bess, and several The best stove plant was Nepenthes distillatoria or pitcher plant. The best greenhouse plant was a species of Gomphalobium or gondelobium chorazema, a slender plant, with deeply divided leaves, and very large orange flowers. There were also two very fine plants of Schyzanthus retusa, upwards of three feet high each, and nearly as much in diameter. We believe this is one of the finest greenhouse annuals that is grown. The Pansies were numerous, and many of them very large. Among Calceolarias there were some very fine specimens of both the herbaceous and shrubby kinds; in the former class we were particularly pleased with, one having a very dark upper lip, surrounded with a light buff-coloured edge. This is a very distinct and desirable variety. Many excellent articles were, of course, exhibited, to which no prizes were awarded, amongst these William Marshall, Esq., of Southcave, exhibited twelve varieties of Petunias.

The fruit and vegetables were very good, especially the latter; we noticed some very large asparagus, blanched nearly to the point. To us this has always appeared an objectionable practice. Why asparagus should be better for blanching, we have never been able to understand. It is well known that the blanched or white part of the stem, cut as it usually is, near to the crown of the root, is invariably too hard and tough to be used when dressed, the short green points of the grass being the only eadible parts. The plan we would recommend would be something like the following. Suppose the crown of the plant to be covered five or six inches with earth, we would not cut the grass more than one inch below the ground; if this rule were adhered to, the grass would seldom be cut until it had attained sufficient length, certainly not less than six or seven inches above the surface of the bed, it would then be tender to the bottom of the stalk, and much more highly flavoured than the tough stick-like pieces of grass usually brought to the table.

In passing along the Anlaby Road, Hull, we were particularly vol. 17.

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struck with several street gardens being close to the road, and not more than a few yards square; a round or oval bed was formed in the centre, with a narrow walk surrounding it. The margins between the wall and these little walks, were completely covered with Saxifraga azæoides, or some species nearly related to it. The oval or centre beds were also covered with the same plant, and the thick short branching foliage, so remarkable for its close, compact and cushion like appearance, seemed to us to be just the right plant for this situation. It was in vigor ous health, and having the stems of a few bulbous plants rising above its surface, and in flower, convinced us that even street gardens, containing only a few square yards, may, by making use of proper plants, form interesting and pleasing objects.

A desire to possess and cultivate flowers, too often induces persons to keep their little plot of ground dug, and by frequently planting and replanting, turning and stirring the ground, together with the permiscous selection of plants, their sickly and dying appearance, which, as a natural consequence, such plots of ground, must, under these circumstances ever present, are generally the most unsightly as well as the most unsatisfactory objects that can well be conceived. In situations where it is found that plants cannot be cultivated, these little gardens ought to be covered with stone flagging, or neatly laid with gravel. If the proprietor or tenant be anxious for ornament, a small vase, or any suitable architectural object may be introduced; such an arrangement as this would be infinitely preferable to the raw earth close under the living-room windows, also surrounding the entrance door, and continually exhaling unwholesome vapours.

CHATSWORTH.—The succulent plants continue to thrive and grow here freely, and many of the smaller kinds have made considerable progress during the short time they have been in this garden. A very successful method of treating the smaller kinds has been practised here for some years. During the summer months they are placed in dung frames, and, by a steady mild bottom heat, and being kept in a close and warm atmosphere, they grow more vigorously than is the case when kept in the dry atmosphere of the succulent house.

In one of the greenhouses we noticed among other fine specimens of valuable and showy plants, Erica retorta, between three

and four feet in height from the surface of the pot, and about three feet in diameter. This fine specimen will be in full flower in the course of a few weeks; besides this there were other plants of the same genus much larger: but the former being of slow growth, is very rarely met with of so large a size.

In the Orchideous house, the general aspect of the plants is that of vigorous growth, and many of the kinds have now attained great magnitude; such as Stanhopea oculata and S. insignis, Gongora maculata and altropurpurea, Oncidium atissimum and O. carthagenense, Cattleya labiata, C. Crispa, and C. Harrisoni, Dendrobium fimbriatum, D. cærulescens and formosum, Zygopetalum mackai, Angæcum eburneum; this last named plant is a valuable specimen, not only because of its large size, but also on account of its rarity, there being only one or two plants of the same species in the country. In speaking of large plants, we shall be better understood by saying, that eight of the largest of these plants are grown in tubs twenty inches square, and requiring the powerful exertions of two strong men to remove them from one part of the house to another. Among the Orchideous plants in this house, are many rare plants, such as palms, musas, &c.; the most remarkable of woody plants are two specimens of Amhirstia nobilis, previously noticed in this Magazine. These, we believe, are still the only two living plants that are at present in this country. They are both in vigorous health, and will, in the course of a few years, form attractive objects in the magnificent tropical Conservatory, now in course of erection at this place.

BY THE EDITOR.

The second flower show for this season was held in the Sheffield Botanical Gardens, on Thursday, the 30th of May. The principal floral feature of this exhibition was the numerous classes of Tulips, which, owing to the cold dry season, were smaller than usual, but in point of quantity and quality, were unsurpassed by any previous exhibition. A circumstance presenting more difficulty, and having immediate reference to florist's flowers, and indeed, applying more of less to show plants of all kinds; appeared to be much felt by

SECOND FLORAL EXHIBITION, HELD IN THE SHEFFIELD BOTANICAL GARDENS, WITH SOME REMARKS RELATIVE TO THE SAME.

many of the visitors, while endeavouring to ascertain by comparison the difference between those flowers to which the first, second, and third prizes were awarded, and those blooms to which no distinction or prizes were attached; this being the case, but little pleasure is felt by persons unacquainted with those properties forming the standard by which flowers are judged. This difficulty, and it is one which operates very much against an increasing taste for florist's flowers, might be much lessened by suspending behind each a portrait of what the flower ought to be, exhibiting all the points of excellence in a prominent form; a second portrait or picture should accompany this, by way of contrast, exhibiting some of those defects common to the particular class. the view of carrying out this idea, we would recommend, that in order as far as possible to secure an unity of opinion on the particular form and colours which ought to form the standard of perfection, the question should be decided by a Committee of three of the most eminent growers, being persons of taste, and possessing an extensive practical knowledge of this interesting plant. vincial Societies might then be supplied with these models at a reasonable charge; they would not only be valuable for the purposes to which we have referred, but would, in many instances, may we be allowed to say, prove of very great use in assisting the judges in the discharge of their tedious and often difficult duty. They would also be an unchanging reference in case of dispute.

EDITOR.

MR. LOUDON'S VISIT TO THE SHEFFIELD GARDENS. BY THE EDITOR.

During the last week in May, Mr. Loudon visited the Sheffield Gardens, being the first time he has been in this part of Yorkshire for some years. Mr. L. made a careful and deliberate inspection of the Botanical range of stoves and green-houses, of the general arrangement and disposition of the grounds, but especially of the collection of hardy Trees and Shrubs; his practical knowledge in this department is very extensive, a fact that will readily be admitted by all who have had an opportunity of perusing his splendid work on Trees and Shrubs, the "Arboretum et Fruticetum."

Since none of the Botanical Gardens throughout the country. which Mr. L. has visited, and in any way noticed, have met with his approbation, or at all approached the views which he entertains of what such gardens ought to be; Mr. L. having also spent several years on the Contineut, and visited many of the principal public institutions there, the greater part of which are supported by the various Governments to which they belong; under such circumstances, and subject to little or no change, dependent on no casual or uncertain source of revenue for their maintenance, it is easy to conceive that such institutions present a widely different aspect when compared with the public gardens in this country, dependent, as they are, on a precarious and ever-varying income. Such being the case, it necessarily follows that Mr. L. entertains comprehensive and extended views on matters of this kind; and, as a public man, he is expected to speak candidly on whatever comes under his notice. We make these remarks, fully prepared to expect, that should Mr. L. offer any observations on his visit to this garden, we shall, in common with others in similar situations, have whatever is defective in the arrangement of the garden fully pointed out, and unsparingly commented upon.

In order the better to show how Mr. Loudon disposes of his duty with respect to public gardens, we shall make the following quotation from the Gardener's Magazine, relative to the Garden of the London Horticultural Society, which, it would appear from various accounts, is in difficulties in a pecuniary sense, and also owing to having undertaken the erection of a large tropical conservatory. The difficulties relative to the latter object arise from the doubtful propriety of entering upon an undertaking, which will not only incur a large outlay of capital in the first instance, but will also entail upon the society a heavy annual expenditure in the maintaining and keeping it up. Besides, there are other objects which, at the commencement of the garden, the Society professed to have in view, which have not yet been satisfactorily carried out, in regard to which Mr. L. has the following remarks:-- "We have alluded above to the new conservatory, which has been begun in the Society's garden; and having never seen the plan, we wrote a letter to the Secretary, requesting permission to see it, and to take a tracing for publication. The following is an extract from the Secretary's answer: 'As many points of detail in the construction

of the conservatory are reserved until the execution of the outline shall enable us better to judge of the effect, no other than working plans and elevations have been made, and we are anxious that no plan should be published until the first wing is actually firsthed. The precise form of the central dome, which cannot be begun upon at present, is left for future consideration."

"Under the above circumstances, we are precluded from making any remarks on the elevation, or the mode of heating the walks, whether the plants are to be planted in the soil, or kept in pots or boxes; but we may be permitted to remark on the hap-hazard way in which the Garden Committee are going to work, by beginning to build a part before they fix on a design for the whole; at least this is the point of view in which the proceeding strikes us. also object to the situation in which the Conservatory is to be placed. We stated in our letter to the Secretary, immediately after seeing the foundation, that we thought it objectionable, as being in one corner of the arboretum; because it must be recollected that the whole of what was once the flower garden is now laid down in grass. To our objection, Mr. Bentham's reply is, "The site and direction of the houses were fixed when the garden was originally laid out, and the ground was left accordingly. I am sorry you differ so much from the whole of the Committee on these points; but I would beg to observe, that the site is very near the centre of the garden, and I cannot conceive how it can be said to be thrust into one corner, even of the orboretum." To this Mr. L. says, " With due submission to Mr. Bentham, what was valid reason when the flower garden was kept distinct and separate from the arboretum, cannot be a valid reason, now that these two departments are united."

EDITOR.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Cænothus collinus.—A handsome evergreen shrub, producing spikes of pure white flowers. It was originally introduced from North America, by the unfortunate Douglas, but lost by the Horticultural Society. We observed the plant at the Clapton Nursery, and understood that it is perfectly hardy.

Recynanthus parasiticus.—This showy stove plant, which is a native of the East Indies, is now producing its bunches of scarlet flowers. It is of climbing habit, and the leaves are fleshy and succedent; the flowers are produced in bunches, at the extremity of each shoot.*

Diplacus puniceus.—This plant, which we have previously noticed, has at length produced its flowers, and fully realizes the anticipations which were formed concerning it. Its flowers, which in form are very elegant, and exhibited on a graceful footstalk, are of a beautiful dark crimson, with a light orange centre. It is a very profuse bloomer, and is well adapted either for growing in a pot, as a greenhouse plant, or for planting out in the flower garden.

Thysanosis prolifeus.—We noticed a fine specimen of this truly elegant plant at the Clapton Nursery, where it was blooming most abundantly. The flowers, which are very short-lived, being open only three or four hours, are of a rich chocolate colour. The petals are beautifully fringed, and present the appearance of small pieces of delicate silk, with the edges fringed out. It is a native of the Swan River. It maintains for months a continued succession of flowers.

Gloxinia grandiflora.—We mentioned this variety in a former paper, as having been introduced from the United States. It very much resembles G. Caulesceus, except that the colour is quite pale, approaching to a lilac.

Orchidacea.—In the splendid collection of the Messrs. Loddiges, although we saw nothing particularly new, we observed many very choice and rare species in bloom, among which the following deserve especial notice: Oncidium variegatum, Aerides tesseelatum, Huntleya violacea, Peristeria stapelioides, Lissochilus parviflorus, Saccolabium guttatum, two varieties, and S. præmorsum. Messrs. Low and Co., of the Clapton Nursery, have received a large importation of Orchidaceæ from Venezuela, in which are two

^{*} We may observe respecting this plant, that it is one which cannot fail to be admired when properly known. The habit of the plant much resembles the Hoya, or Honey plant, as it is often termed; and the flowers are produced in clusters, in appearance very much like the Oleander. It is a plant of easy propagation; in a slight bottom heat, every twig will grow; and even a leaf, were it split in two, we have no doubt would produce roots.



or three Catleyas, a very remarkable Epidendrum, and other novelties.

Hemrocaulis, species Nova.—A native of Japan, whence it was introduced with many other very valuable and desirable plants, by Mons. Von Siebold. The flower is large and of a very brilliant orange colour. We consider it will be nearly, if not perfectly, hardy, and will prove a valuable plant for the flower garden.

Echinocactus erinaceus-We observed a fine specimen of this rare and beautiful variety, in full bloom, at the Clapton Nursery. The flowers are very large, and of a brilliant yellow; they are produced from the crown of the plant, which renders them very conspicuous. We are glad to find that this interesting tribe of plants, which has been so long overlooked or neglected, is now coming into notice, and that its numerous members are attracting the attention which their singularity, variety, and beauty deserve. Several cultivators, among whom the foremost are-His Grace the Duke of Bedford, C. Palmer, Esq., of Shacklewell; the Rev. Theodore Williams, of Hendon; and Thomas Harris, Esq., of Kingsbury, have taken the matter up with spirit and liberality; and, as a natural consequence, many interesting species have been procured from the Continent, and from the various tropical countries of which they are natives. There is a considerable collection at the above named Nursery.

REFERENCE TO PLATE XL.

CLEMATIS SIEBOLDII, Siebold's Clematis.

MAT. ORD. RANUNCULACEM. CLASS POLYANDRIA POLYGYNIA, SYN. CLEMA-TIS FLORIDA. var. BICOLOR. [Lindley's Bot. Reg.

The cultivation of this interesting and beautiful twiner has now become very general; it is still much in request, and highly esteemed by all who devote their attention to ornamental plants. It is a native of China, and was introduced from thence by S. Siebold, the indefatigable botanist, whose name it commemorates. We are not aware, however, that in any instance where it has been exposed to the severe frosts of our two recent winters, it has been killed. It has in some instances died downto the ground, but it sprung again the following year; and, we believe, it is deserving of the character generally given to it, namely, that it is a hardy plant. It is certainly an exceedingly beautiful one, and is an early and most abundant bloomer; and for superior situations, such as covering trellis work and verandas in front of dwelling-houses, we know of no plant better adapted for the purpose than this.

Dr. Lindley says "this very handsome plant is certainly a mere variety of C. florida, from which it differs principally in the clearness and brightness of the colour of the flowers, and in being of rather more robust growth. It is about



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TO WEELS SECTIONS as hardy as that species, and one of the very best climbing plants that have been introduced for many years. Trained to some well contrived basketwork fixed upon a pot, and protected by a greenhouse from rain and other causes likely to dim its colours, it ought to form one of the most striking abovey plants ever seen."

It may now be purchased in the Nurseries at from 7s. 6d. to 10s. 6d. per

plant, according to its size.

RPIMEDIUM GRANDIFLORUM, Showy Epimedium.

MAT. ORD. BERBERACE.M. CLASS TRIANDRIA MONOGYMIA.

Under this name the plant in question was received from Messrs. Low and Co, of the Clapton Nursery. The flowers are rather large and of a yellowish white colour; they are produced in panicles above the foliage. That it is quite hardy we have not had an opportunity of fully ascertaining; should it prove hardy, and in favourable situations, we are inclined to think it will be found so, it will be one of the most elegant and beautiful of our alpine plants.

It increases slowly by dividing at the root. This beautiful little plant, with about 160 others, were introduced from Japan, by Siebold; three or four species of the same genus are in this country, and in the garden at Ghant, all introduced by the same collector.

SUTHERLANDIA FRUTESCENS, VAR. OBCORDATA.

NAT. ORD. LEGUMINOS.E. CLASS DIADELPHIA DECANDRIA.

This plant has been distributed into various gardens throughout the country, as a species of Clianthus; and this garden is indebted for its possession to Mr. Atkins, Nurseryman, Northampton. We have grown it for nearly two years; it has attained the height of about five feet, set with slender pendent branches and their laterals, at the extremities of which the flowers are produced. They are abundant, and emanate from the axils of the leaves, in clusters of from three to five. In the form of the flower there is no character anficiently marked to render this distinct as a species. It is, however, meet distinct, both in the habit and general aspect of the plant, from that of the original species being much greener, and entirely destitute of the talky hairs which cover the whole of the species in question. The bright scarlet flowers of this variety of Sutherlandia, are much more beautiful than those of Clianthus punicious, but the plant is less elegant in its habit, and is also wanting in that rich and ample foliage for which the Clianthus, when in vigorous health, is so remarkable.

It not only differs from Sutherlandia frutescens in those particulars named above, but the pinnulæ or segments of the leaves are obcordate, and remarkably so throughout the whole, plant; besides this, the pinnulæ become irregular at the extremity of the leaves, some are unsually large, others small and displaced: nor is this a rare characteristic, but common to almost every leaf on the plant.

NOTICES OF NEW PLANTS.

PÆONIA BROWNII, Douglas's Californian Paonia.

[Bot. Reg.

NAT. ORD. RANUNCULACEÈ. CLASS POLYANDRIA DIPENTAGENTA.

This species will be curious and interesting to the scientific botanist, but it will present few attractions to the amateur, who cultivates and values plants only according to their individual beauty, altogether irrespective of other considerations. The foliage is much divided of a light-green colour; the flowers are small, with short orange petals, surrounded and surpassed in length by the brown coloured leathery calix.

YOL. IV.



This is the only species of the genus found in the New World, being a native of the Subalpine range of Mount Hood, in North West America, and inhabiting the limits of perpetual snow.

ASAGRÆA OFFICINALIS, Spike-flowered Asagræa.

Bot. Reg.

NAT. ORD. MELANTHACEÆ. CLASS HEXANDRIA TRIGYNIA.

A plant of ordinary beauty, having a long spike of whitish-green flowers, and long grass-like leaves. It is a bulbous plant, requiring the treatment of Tigridia payonia.

GERANIUM CRISTATUM, Crested-seeded Crane's Bill.

Bot. Mag.

NAT. ORD. GERANIACEÆ. CLASS MONADELPHIA DECANDRIA.

A trailing plant, with round and deeply cut leaves. The flowers are of a rosy-purple, and rather ornamental. It will, no doubt, be hardy, being a native of the Caspian Sea, and of the Mountains, at an elevation of upwards of three thousand feet. It produced its flowers in the Glasgow Botanic Garden, during July last.

HOVIA PUNGENS, Pointed-leaved Hovia.

[Pax. Mag.

NAT. ORD. LEGUMINOSÆ. CLASS MONADELPHIA DECANDRIA.

Most of our readers are more or less acquainted with the Hovia Celsii, one of the most ornamental of our greenhouse plants. This is a smaller species of the same genus, but not less beautiful. If possible, the vivid blue colour of the former is surpassed by the one now under consideration.

It is a plant of slender growth and narrow leaves, each terminating in a hard and ridged point; they are remarkable for their diversity of size.

This little plant is cultivated by Messrs. Rollison, Nurserymen, Tooting. And we recommend it as well deserving the attention of all who take any interest in greenhouse plants.

LUPINUS HARTWEGII, Mr. Hartwig's Lupine.

Bot. Reg.

NAT. ORD. LEGUMINOSÆ. CLASS DIADELPHIA DECANDRIA.

This is a Mexican species of annual Lupine, with deep blue flowers, and broad oval hairy leaves. It attains the height of from two to three feet, and flowers from June till destroyed by the autumn frosts.

PHILADELPHUS GORDONIANUS, Gordon's Philadelphus. [Bot. Reg. NAT. ORD. PHILADELPHACEÆ. CLASS ICOSANDRIA TETRAGYNIA.

The genus to which this species belongs, has been significantly termed mock orange. This has no doubt originated from the circumstance of a great resemblance which the flowers has to that of the orange. The plant in question is an hardy shrub, with dark-green, deeply and coarsely serrated foliage, and bearing on the lateral branches clusters of white flowers. It bears a most abundant profusion of bloom; and the plant having a rather slender habit, is altogether likely to be one of the most ornamental of hardy shrubs. It is quite hardy, and will grow freely in any ordinary garden earth.

GESNERIA OBLONGATA, Oblong-flowered Gesneria.

Pax. Mag.

NAT. ORD. GESNERIACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

We have previously noticed and figured this plant, and made some remarks relative to it during a recent visit to London. We cannot, notwithstanding all this, refrain from bringing it before our readers, and in doing so, we shall only say, it is one of the most ornamental plants that we know.

BEGONIA SINUATA, Sinuated Begonia, or Elephant's Ear. [Bot. Mag. NAT. OED. BEGONIACE. CLASS MONCECIA POLYANDEIA.

A plant requiring the temperature of the Stove. It is here stated to be a beautiful plant; we should designate it as one of moderate beauty, the

oblique light-green leaves, together with the white flowers, present nothing very striking. It is cultivated in the Edinburgh Botanic Garden.

SACCOLABIUM CALCEOLARE, Slipper-shaped Saccolabium. [Pax. Mag. NAT. ORD. ORCHIDACE E. CLASS GYNANDRIA MONOGYNIA.

A native of the Khoseea Hills, in the East Indies, and found at an elevation of four thousand feet above the level of the sea. The flowers are small, of a yellow ground, spotted with purple. It succeeds beat when cultivated on a piece of wood, and suspended from the roof in a shady part of the hothouse, the roots being covered with a little moss, securely tied by small wire or matting.

SCHOMBURGKIA MARGINATA, VAR. PETALIS SEPALISQUE IMAR-GINATIS, Margined Schomburgkia, var. Bot. Mag.

NAT. ORD. ORCHIDACE ... CLASS GYNANDRIA MONANDRIA.

This rare and beautiful plant is a native of Surinam, and is at present cultivated by Thomas Brocklehurst, of the Fence, Macclesfield. The flowers are produced on a long and slender flower stem, forming a short spike, and are of an orange and cream colour. Altogether, we should think this plant, when in full flower and in vigorous health, a very beautiful object.

ONCIDIUM PAPILIO VAR. LIMBATUM BUTTERFLY ONCIDIUM,

Broad-bordered var.

NAT. ORD. ORCHIDACES. CLASS GYNANDRIA MONANDRIA.

"No figure has given any adequate idea of this singular and beautiful Oncidium, whose blossoms have, at first sight, more the appearance of some strange lepidopterous insect than any flower we know. Some specimens are, however, much more brightly coloured than others; and we have here selected one of the best-defined of those that have so frequently appeared in the stove of the Glasgow Botanic Garden, where bulbs are often imported from Trinidad."

This is, perhaps, one of the most interesting and curious of all orchidaceous plants; and when seen in bloom, it never fails to attract attention. It succeeds best when grown on a piece of wood, and suspended from the roof of the stove, or placed in some shady part of the house.

LEPTOTES BICOLOR VAR. GLAUCOPHYLLA, Two coloured Leptotes, glaucus-leaved vr. | Bot. Mag

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

This is a small white flowering species, slightly marked with rose colour. The leaves are only a few inches long, and have a round rush-like form. It is a native of the Organ Mountains, where it was found by Mr. Gardener, and by him transmitted to the collection of his Grace the Duke of Bedford, at Woburn Abbey.

ERIA FERRUGINEA, Rusty Eria.

Bot. Reg.

NAT. ORD. ORCHIDACEA. CLASS GYNANDRIA MONANDRIA.

This is a new species, a native of India. It is curious, and by such as are anxious to obtain every known species, this plant will be cultivated.

GLADIOLUS RAMOSUS, Branching Corn-flag. [Paxton's Mog.

NAT. OBD. IRIDACEÆ. CLASS TRIANDRIA MONOGYNIA.

This is a Cape bulb, rare, and also very showy. The flowers are very large, the upper petals are of a light rose colour, and the lower three are dark purple, their edges being of a light colour, like the upper ones. "In the size and beauty of its flowers, it yields to none of its cogeners, and on account of its peculiarly branching habit, it may be considered the most ornamental species of the genus. By the possession of the character just referred to, it is calculated to produce a much greater number of flowers, and these are arranged with much better effect than those of the species with simple stems." In the nursery of Messrs. Lucombe and Pince, of Exeter, it flowered profusely in the open

border, in the month of July last. The following very judicious and practical remarks occur here, which we shall take the liberty of quoting: "Of the practice of transplanting Gladioli to the open border, we wish here to record our decided commendation. No other mode of treatment will be found so suitable; and we can only account for the little esteem in which these superb plants are held, by supposing that this system is very rarely adopted. Thus treated, our present subject will grow to the height of four or five feet, and with three or four lateral spikes of flowers, presenting an almost unexampled picture of magnificence."

BESSERA ELEGANS, Elegant Bessera.

[Bot. Reg.

MAT. ORD. LILIACEM. CLASS MONADELPHIA HEXANDRIA.

This is a Mexican plant, belonging to the beautiful natural order to which it is referred above. The flowers are produced at the extremity of a slender scape, or flower stalk, gracefully pendent to all sides. The individual florets terminate a gracefully pendent pedicle, and are of a beautiful and attractive rosy scarlet colour. The cluster of flowers amount to about a dozen.

rosy scarlet colour. The cluster of flowers amount to about a dozen.

Dr. Lindley says, "I did not see the leaves of this species. Mr. Rodgers describes them to me as two feet long, cylindrical, with a furrow on one side, deep green, not glaucous, and about twice as thick as the scape, which is two feet."—"The first flower expanded Sept. 12, and it was still in beauty in October." The bulb is about the size of a crocus.

Sufficient is not yet known of this genus, or of the present species, to determine whether or not it be sufficiently hardy to endure our winters; and it will, therefore, he proper for those who possess plants of it, to preserve them is pots in the greenhouse.

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

DENDROBIUM PAXTONI.

To all who admire and cultivate Orchidaceous plants, it will be sufficient to mention the genus Dendrobium to command attention, containing, as it does, some of the gayest ornaments of the gayest as well as the most curious natural order to which it belongs. The species in question has orange yellow flowers, with a drep brown spot in the middle of the lip. In botanical affinity, it stands the most nearly related to Chrysanthum, It was found at the foot of the Khoseea hills, in the East Indies, and is now cultivated at Chatsworth, by Mr. John Gibson, who discovered it in its native habitat. It has been named in compliment to Mr. Paxton, director of the extensive gardens, pleasure grounds, woods, &c. at Chatsworth, the seat of his Grace the Duke of Devonshire.

PHOLIDOTA ARTICULATA.

An orchideous plant, of no beauty; cultivated at Chatsworth.

PHAIUS WALLICHII.

Discovered at the same time, and by the same collector, as the last two, and also cultivated at Chatsworth. Rather ornamental.

TRIGONIDIUM TENUE.

A native of Demerara, having brownish purple flowers.

SCAPIOGLOTTIS STELLATA.

This, together with the last four, is also orchideous. It is a native of Demerara, and is rather ornamental.

ISOTROPIS STRIATA.

It would appear that this is a beautiful pea flowering greenhouse shrub. The flowers are a clear orange, with rich crimson forked veins. It is a native of Swan River, and cultivated by Robert Mangles, Esq., of Sunning Hill:

GOMPHOLOBIUM VERSICOLOR.

A climbing shrub, with large redish yellow flowers, changing to a deep chocolate red. This is also cultivated by the same gentleman: it is a native of the same country as the preceding, and we should think a highly interesting plant.

CHOROZEMA VARIUM.

This is also a native of the Swan River. It appears to be a plant of easy culture, of robust and vigorous growth. It is still very rare. We have recently seen a solitary plant. The leaves are about an inch, more or less, in diameter, broad at the base, and tapering to the extremity.

Dr. Lindley says, this is, perhaps, the handsomest shrub yet obtained from the Swan River; whence seeds have been received, both by the Horticultural

Society and private individuals.

Its foliage is compact, neat, and of a greenish grey colour. The flowers are gayly painted with orange and crimson. It is a greenhouse shrub, of the easiest culture, and will make an admirable conservatory plant. It flowers from March through the summer months.

AGANISIA PULCHELLA.

An orchideous plant, a native of Demerara, rather pretty. Its nesrest affinity is with that of Maxillaria.

GOVENIA LAGENOPHORA.

This is a native of Mexico, and was introduced from thence by John Rodgers, Esq., Jun. The following remarks were also forwarded by the same gentleman, who states, that the root is about the size of a duck's egg, and that it is renewed annually; the previous year's root dying away completely about the time that the young root attains maturity.

They are formed above ground, and are of a bright green, marked with the sears of decayed sheaths. The innermost sheath, which surmounts the tuber, is entire, and resembles a Florence flask in shape: it is about eight inches high, from two to three inches in diameter at the base, and three quarters at its throat, translucent or semi-transparent, containing about one-third of a pint of water. "The flower stem rises from the bulb within the pitcher, and opposite to the mid rib of the outer leaf, about three feet high, bearing from forty to fifty flowers, which expand rapidly, and continue long in perfection. The pitcher is generally full of water, all the rais and dew which falls on the leaves being conducted into it; and it is apparently absorbed by the plant; as, if not replenished, it disappears more rapidly than by evaporation would account for."

BRASAVOLA GLAUCA.

An orchidaceous plant, a native of Vera Cruz. It is at present in the gardens of the Lendon Horticultural Society; and such is its striking resemblance to the Genus Cattleya, that; up to the time of its flowering, it was supposed to belong to that genus. It is spoken of as being quite a splendid plant.

ONCIDIUM SANGUINEUM.

A noble species of this handsome genus, which has been imported from La Guayra, by the Messra. Loddiges. The flowers are straw colour, stained with crimson blotches. It resembles O. Carthagenense.

CYMBIDIUM BICOLOR.

A handsome species, a native of Ceylon, and cultivated by Mesers. Loddige.

DIPLOPELTIS HUGELIL

Dr. Lindley observes, that "for a living specimen of this beautiful and most curious herbaceous plant, I am indebted to Mr. Toward, gardener to H. R. H. the Duchess of Gloucester, at Bagshot." He farther remarks, that it will speedily be figured in the Bot. Register, when we shall again have an opporatually of referring to it.

ACACIA CYANOPHYLLA.

A native of the Swan River. "None of the long-leaved Australasian acades have such glaucus wavy leaves as this."

MISCELLANIES.

STRAWBERRIES.—Gerard, who published his Herbal, in 1597, says "strawberries do grow upon hills and in valleys, likewise in woods and other such places as be something shaddoway. They prosper well in gardens; the red strawberry every where; and the other two white and green are more rare, and are not to be found save only in gardens." From this it would appear that the white wood was either rare, or not then discovered, and the plants Gerard had of both, might have been obtained where they have been known for ages. In the time of Shakspeare, it also appears that they were gathered from their native habitats. He says:—

"The Strawberries grow underneath the nettle, And wholesome berries thrive and ripen best, Neighbour'd by fruit of lesser quality."

In another place he says:-

"My Lord of Ely, when I was at Holborn, I saw good Strawberries in your garden there, I do beseech you send for some of them."

This passage alludes to the Bishop of Ely, who had a garden on the site of Ely Place, Holborn, which was much celebrated for the fruit it produced.

We are all brought into immediate connexion with all the vegetation that clothed the ancient earth before half of its surface had yet been formed. The trees of the primeval forests had not like modern trees, undergone decay, yielding back their elements to the earth and atmosphere, by which they are nourished, but treasured up in subterranean store houses, have been transferred into enduring beds of coal; which, to men in these latter ages, have become the sources of heat, light, and wealth. My fire now burns with fuel, and my lamp is now shining with the light of gas derived from coal that has been buried for countless ages in the deep and dark recesses of the earth.—Buckland.

A DESCRIPTION OF A HOLLOW WALL.—"It is built nine inches thick with sound even-sized bricks, placed edgeways, the joints being carefully made, and laid with the very best mortar. The bricks are placed with their faces and ends alternately to the outside, so that those which have their ends exposed, become ties to the surface of the wall. In each succeeding course, as the wall is built, the bricks, with their ends outward, are placed on the centre of the brick which is laid lengthway in the course below; thus a hollow space is formed in the middle of the wall, of four inches width, which is only interrupted where the tying bricks cross it; but there is a free passage for air from the top to the bottom of the wall. The wall is covered close at the top with a heading course of bricks, on which is a coping of Portland stone, with a projection of two inches, and strengthened at every twenty feet by piers of foorteen inch work, executed in the same manner with bricks on the edge, which are so worked in, as to preserve the continuity of the hollow space through the wall. From experience in my own garden, and from that of others for whom I have built walls in this method, I have no hesitation in pronouncing it to be sufficiently strong for all garden purposes; the saving

of expense in its construction is full one-third, and it has the advantage of becoming dry after the soaking of long rains, much more rapidly than a solid wall of the same or any other thickness." [We have made the preceding quotation from the Horticultural Transaction of London, knowing it to be a subject of interest with many. Where economy is a consideration, the wall described above, may be adopted with great propriety; and if carefully built, with good brick, and on a sound foundation, it may stand for a century, and will cost little more than half that of garden walls, as they are ordinary built, and, besides being hollow, is a great advantage.]

CYCAS REVOLUTA belongs to the class and order, Dicia Polyandria, of Linnæus, having its sexual organs on separate plants. In one of the stoves in the Sheffield garden, there is now in full flower a male plant of this species; The spath or flower spike is 2 feet in length and 18 inches in circumference. It gives out an odour similar to that of a highly flavoured Water Melon.

As there is no critical mark to determine at once between poisonous and salutary mushrooms, we may lay it down as a general rule, that those should be suspected and avoided, that grow in moist and marshy grounds, and especially in the shade, that have a dirty looking surface, and whose gills are soft, moist, and porous.—Dr. Good.

THE DOUBLE YELLOW SWEET-BRIAR.—In the Sheffield Garden this is one of the earliest roses we have. In the open ground there are a few other kinds just opening, and some have been in bloom during the last week or ten days; but a small plant of the Yellow Briar, has, within the last week, come into flower, and although a small plant, the profusion of blossom now ready to open is very great. As an early flowering rose, this is a most designable variety, and wherever roses are grown, it ought to be one. Mr. Rivers, in his very excellent book on roses, makes the following remarks on the Sweet-Briar. "Who knows not the Sweet-Briar? the Eglantine, that plant of song, the rhyme of which jingles so prettily, that nearly all our poets, even love-stricken rustics have taken advantage of its sweet sound.

"I will give to my love the Eglantine."

Has been often the beginning of a country lover's song; but in sober truth, every one must love this simplest and sweetest of flowers; for what odour can surpass that emanating from a Sweet-Briar, in the dewy evenings in June."

Mageors.—Adhering to the distinction of calling those larve which are destitute of feet, Maggots, we shall notice here a very distinctive one, which is sometimes popularly called the grub, and sometimes confounded with the wire worm. We allude to the larve of one or two common species of crane flies (Tipulide,) well known by the provincial names of father-long legs, jenny spinners, and tailors. These insects are so common in some meadows, that being very shy and fearful of danger, they rise in swarms at everystep—some of them fly high, others only skipping over the grass, and others running and using their long legs as the inhabitants of marshy countries use stilts, and employ their wings like the cetrich, to aid their limbs. "The Maggots, when hatched from the egg, immediately attack the roots of the grass and other herbage, which it finds nearest to it; and, of course, the portion of the plant above ground withers for lack of nourishment.—Insect Architecture.

The Pterocarpus Marsupium, one of the most beautiful of the large trees of the East Indies, and which grows in the greatest perfection about Malacca, affording, by its elegant, wide-expanding boughs and thick spreading pinnated leaves, a shade equally delightful with the far-famed Tamarind tree, is readily propagated by cuttings of all sizes, if planted even after the pieces have been cut for many months, notwithstanding they appear quite dry, and fit only for the fire. I have witnessed some of three, four, five, six, seven inches in diameter, and ten or twelve feet long, come to be fine trees in a few years.

While watching the transformation of the leg into the tree, I have been able to trace the progress of the radicles from the buds, which began to shoot from the upper part of the stump in a few days after it had been placed the ground, and marked their progress till they reached the earth. By elevating the bark, minute fibres are seen to descend contemporaneously as the bud shoots into a branch. In a few weeks these are seen to interlace each other. In less than two years the living fibrous system is complete; in five years no vestige of its log origin can be perceived; its diameter and height are doubled, and the tree is, in all respects, as elegant and beautiful as if it had been produced from seed. These details are introduced because I think they afford a clear explanation of the process of nature which, with so little assistance, converts branches into trees, and will help to unfold those subsequent steps, by which the same process is so modified, that instead of a full fermed beautiful tree, the bough is tortured into a groteeque dwarf.

Dr. Morrison informs me that the Chinese call dwarf trees Hoo-Shoo, ancient trees; and that they express the rearing of them, by terms signifying bending down or repressing ancient trees, which means much the same as dwarfing.

When the dwarfing process is intended, the branch which had pushed radicles into the surrounding composition in sufficient abundance, and for a sufficient length of time, is separated from the tree, and planted in a shallow earthenware flower pot, of an oblong square shape; it is sometimes made to rest upon a flat stone. The pot is then filled with small pieces of alluvial clay, which, in the neighbourhood of Canton, is broken into bits of about the size of common beans, being just sufficient to supply the scanty nonrishment which the particular nature of the tree and the process require. In addition to a careful regulation of the quantity and quality of the earth, the quantity of water, and the management of the plants, with respect to sun and shade, recourse is had to a great variety of mechanical contrivances to produce the desired shape. The containing flower-pot is narrow, that the rects pushing out towards the sides are pretty effectually cramped. No radicle can descend, consequently it is only those which run towards the ends, or upwards, that can serve to convey nourishment properly, and it is easy to regulate those by cutting, burning, &c. so as to cramp the growth at pleasure. Every succeeding formation of leaves becomes more and more stunted, the buds and radicles become diminished in the same proportion, till at length that balance between the roots and leaves is obtained which suits the character of the dwarf required. In some trees this is accomplished in two er three years, but in others it requires at least twenty years.

SUGAR OBTAINED FROM INDIAN CORN.—M. Pallas, lately laid before the Academie des Sciences of Paris, a sample of sugar extracted from the stem of this plant. It has been found to contain nearly six per cent. of sympholied to forty degrees, a part of which will not crystallize before fructification; but it condenses, and acquires more consistency from that period to the state of complete maturity. The time most favourable for obtaining the greatest quantity of sugar, is immediately after the fruit is mature and the time of gathering. The residue after the extracting of the sugar is excellent for the feeding of cattle, or it may be usefully employed in the manufacture of packing paper.

QUERIES, REMARKS, &c.

SIR,—Pray does Carrots grow best in sad or loamy soil! Last year I had a very fine one, of large dimensions, which grew in the hard walk.

[This is a circumstance with which most gardeners are familiar. We have often found that when Carrots were much injured by insects, and the crop a failure, that a few roots having been accidentally allowed to grow in the walks and alleys, which had become exceedingly hard by treading, in this situation they have produced roots quite sound, large, and of the very beet quality—ED.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XXXIX.-AUGUST, 1839.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE OF THE MUSHROOM, WITH REMARKS ON THE RENOVATING OF THE BEDS, WITH THE VIEW OF OBTAINING A SECOND CROP.

BY JOHN M'EVOY.

I now make good my promise, in forwarding to you what I find to be a successful method of cultivating the mushroom. growth of the mushroom, it is not material at what season its culture is commenced. One part of horse droppings, and one third of sheep's dung, should be provided and laid under an open shed, so as to protect it from the rain. When a sufficient quantity is collected, it ought to be frequently turned, to prevent the violent heat destroying the properties of the manure; and this must be attended to once a-day, or oftener, during the time it is collecting. When well prepared, and so much exhausted by fermentation as will prevent it from again attaining to a strong heat, it is then ready to be formed into a bed. In preparing the manure in the way described above, a little water may be necessary occasionally at the time of turning; this will be particularly the case, if much long litter or straw be introduced amongst the droppings; and especial care should be taken to guard against allowing the straw, or indeed any part of the manure from becoming what is termed burned, which will be the case, if allowed to remain too long without being turned, when in a state of fermentation.

When the beds are made on shelves, on old Acre's principle, and this supposes a house prepared for the purpose, having a series of three or more shelves on each side, with a walk along the centre,

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under which is the fire flue, or hot-water apparatus for keeping up a proper temperature in the house. Mushroom beds made in a house of this kind, should be about sixteen inches in depth, and should consist of about nine inches of the coarser and roughest part of the dung; this thickness should be formed first, and when well beaten down and made as firm and hard as it is possible. about an inch of loam should be laid over it; this should also be made firm, being rather dry at the time it is used, and if obtained from a sheep walk, so much the better. Upon this should be laid the remainder of the manure, six inches thick; and again pressed down and made as firm as possible. The whole is now sixteen inches thick, having a layer of maiden earth six inches from the surface. The spawning is the next process, (for the nature and mode of making spawn, see vol. iii, p. 225). In most cases it is thought desirable to defer this for a few days, in case the bed should again ferment and injure the spawn by too much heat. the event of the bed heating, it will again subside in a week or ten days; and when rather above the temperature of milk warm, the spawn may be introduced in small pieces about the size of a walnut, covering it about two inches deep, and the pieces about nine inches apart. It may be laid on the surface of the bed as soon as the latter is made, but the previous practice is what I recommend. The covering and compost used for this purpose, is a rich mellow loam, to which is added some horse droppings, and three or four bricks of spawn to about six barrow loads of loam. The droppings and spawn are broken very fine, so that they may the more readily incorporate themselves with the other compost.

This compost is laid on the bed about two inches thick, and made very firm, beating it down with a small piece of board made for the purpose, and such as the operator can conveniently use in one or both hands. In order to keep up a constant supply, a second bed should be made in about ten days or a fortnight, prepared and treated in every respect like the first.

The temperature of the mushroom-house may, like the temperature of all natural climates, vary; and this variation may, with propriety, range between 50 and 60, or 65 degrees of Fahrenheit's thermometer. The air in the house should be kept moist, and frequently changed by admitting air through suitable ventilators.

It may be of some importance to state, as I believe it is not

generally known, that a second, a third, and even a fourth crop, may be obtained from the same bed by a top dressing of the following compost:—viz., equal parts of cow dung, sheep's dung, fresh loam, and the decayed manure from an old hot-bed. As soon as the bed begins to decline, apply this two inches in thickness over its surface, press it gently down, so as to make it quite firm; but by no means to force it, that the fibres of the spawn in the old bed underneath should run the least risk of being broken. This may be repeated with the greatest success for three or four times, or, indeed, if skilfully managed, it may be continued as often as the necessarily increasing magnitude of the bed will permit.

I hope the above plain remarks may afford instruction to some of your Amateur readers, whose practical knowledge of the mushroom and its culture, is but limited.

JOHN M'EVOY.

Leweston Gardens, Sherborne, Dorset.

I hope some of your Manchester Correspondents will answer "Tyro's" query, as I hope thereby to be a gainer; if not, I will feel a pleasure in contributing my mite.

[We shall feel obliged to hear from Mr. M'Evoy, on the subject to which he refers. But we trust, nevertheless, that some of our Manchester friends will take the matter up—ED.]

OBSERVATIONS ON THE ROSE, HAVING PARTICULAR REFERENCE TO COMPARATIVE HARDINESS, EARLINESS, &c.

BY THE EDITOR.

The rose has long been the favourite flower among civilized nations. The beauty of its foliage, the elegance of its form, the large size and agreeable tints of its flowers, together with their delicious fragrance, have all conspired to acquire for it the appellation of the Queen of Flowers. It is alike admired by the wealthy and the poor, and hence it is found in almost every garden, from that of the Peer to that of the Cottager.

The natural order to which the rose belongs, and the value of those plants to which it stands botanically related, give it more than an ordinary interest. The natural order rosaceæ, the type of which is our common rose, contains many plants of vast importance to man. It must, therefore, be obvious, that whatever is

thus closely connected with it, in natural botanical affinity, must also bear some analogy in beauty; and, indeed, this is remarkably the case. The most valuable of our hardy fruits stand closely related to it. Who could not recognize this, in the beautiful blossoms of the peach, the nectarine, the apricot, the plum, and the cherry, the apple, the pear, medlar, and quince; but especially so when any of the flowers of these trees are double; such as the double flowering cherry, the double almond, the double flowering peach. and various others, who, it may be asked, could not recognize in these the rose blossom in miniature? Among herbaceous plants, we have the strawberry, and the raspberry, with their numerous and valuable varieties; and, although some of the plants of this order rival even the rose in their blossoms, and, in many particulars, surpass that lovelyest of all flowers, yet it is not for charms alone, either of smell, or blossom, or foliage, that this order has fixed itself so high in the estimation of mankind. It has also the rare merit of comprehending, as already noticed, all the most important of the fruits of the temperate regions of the world. To reflect on the fact, that a plant so lovely, and possessing so many properties that is pleasing and beautiful, should have been thus fitted by nature, to become the representative of a section of the vegetable world, second only to the sereale grasses, such as the wheat, rye, and barley, in their vast importance to the inhabitants of the temperate parts of the world. This circumstance alone, did the rose present no claim on the ground of its own merit, is sufficient to invest it with a high degree of interest.

As prefatory to the following remarks on the rose, the preceding observations will assist in drawing attention to the beauty and harmony which pervades the whole vegetable creation. By studying the natural affinities of plants, based on the still imperfect, yet beautiful system of Jussieu, the principles of whose classification being to arrange the productions of the vegetable world in classes, found to be assimilated to each other by a wide and comprehensive view of their properties, so that by obtaining a knowledge of the properties of one plant, it immediately conveys a greater or less amount of knowledge of several others. Leaving others who have leisure to carry out this idea for themselves, we must return to the object of our notice, commencing with the Sweet Briar. It has been well said, who knows not the eglantine,

this plant of song, celebrated as it has been by poets of all ages. It is noticed by Shakspeare, who says

"The leaf of Eglantine, not to slander, Out-sweeten'd not thy breath."

The Eglantine, or Sweet Briar, is remarkable for its delightful and agreeable fragrance, and this is peculiarly striking during the dewy evenings of May and June. It is a native of the dry and hilly pastures of various parts of Great Britain.

The most beautiful of the Sweet Briars is the double yellow. It is also the first of the briars to come into bloom; several of the buds were expanded by the middle of June.

In this class there are about ten or a dozen varieties, mostly semi or half double.

HYBRID PROVENCE ROSES.

Of these beautiful varieties none are yet in flower.

WHITE ROSE-ROSA ALBA.

These are also late flowering varieties, and none are yet in flower.

DAMASK ROSE-ROSA DAMASCENA.

The only one yet in bloom is the Margenata, a very beauvariety; when opening, it is very light in the colour. The tiful class of roses to which the name damask has been applied, will, perhaps, be better known when we say, that the old and well known variety called the York and Lancaster, belongs to this group.

PROVENCE, OR CABBAGE ROSE-ROSA CERTIFOLIA.

It is recorded that the Provence Rose has been cultivated in England for nearly three centuries. It is said to have been introduced from Caucasus; but it is also found wild in the southern provinces of France.

In the somewhat exposed situation in which they are grown in this garden, none of the varieties of this class are yet in bloom.

SCOTCH ROSE, OR ROSA SPINOSISSIMA.

Is a very distinct section of the family, remarkable for their spinny stems and profuse semi-double flowers, of which many are very beautiful; all are exceedingly hardy, and flower most profusely. The Scotch roses owe their origin to the dwarf wild rose of the north of England, but chiefly to Scotland, and especially to Scotch Nurserymen, who, by-the-bye, have multiplied the names to an extent far beyond that which their distinctive characters have

yet warranted. Some of the varieties now in flower in this garden, are-

William the Fourth.—Rather upright and pretty, with white double flowers.

Sulphurea.—White, rather dwarf and creeping; a pretty double variety.

Proserpine.—A compact handsome rose, with flesh-coloured flowers.

Mrs. Hay.—Is a light sulphur, but differs from sulphuria, in opening more freely and is rather less double; but in its general aspect, it is a prettier variety, supporting its flowers on longer and stronger flower stalks.

Belle Inconnuc.—Of rather upright and compact habit, with very light-coloured flowers. :

MOSS ROSE-ROSA CENTIFOLIA MUSCOSA.

None of the varieties of this interesting class are yet in bloom.

FRENCH ROSE-ROSA GALLICA.

La Premiere Mode.—This is a dark blush, and a good, bold, and very double flower.

Malakadel and Rival Queen .- Are just opening.

Fanny Parissot.—This is a very double, very large, and well-formed flower, of a pale blush colour.

Duchesse d'Orleans, or Duc de Guiche.—A robust growing plant, set with a great profusion of bloom, just opening, and of a dark-rose colour.

Charlotte de la Charme.—A dwarf and free-flowering variety; not invariably spotted, the ground a bright rose colour.

Cameleopard.—A graceful and beautiful variety, just coming into bloom.

Berlise.—Is often highly recommended, but our plant, which is a strong one, is entirely without bloom.

Aspasie.—This has been said to be one of the most delicate and beautiful roses known; and to plants grown in less exposed and more favourable situations, we have no doubt this description is fully applicable. Even with us, in a situation cold, and by no mean sheltered, there are several blooms fully expanded; and when just opening, their delicate flesh colour, and perfect round form, surpass in beauty any rose that we know. When fully blown

and exposed to the sun for a few days, the flowers become nearly white.

Amouroux.-Rose-colour, rather slender habit.

HYBRID CHINA ROSES.

Long flexible shoots, with half evergreen shining leaves, are the distinguishing characteristics of this family. The origin of the hybrid China rose, is a mixture of the China tea-scented Noisette, and Bourbon roses, fertilized with summer flowering varieties, such as the French, the Provence, &c.

Taken as a whole, the hybrid China roses are unquestionably the most splendid class of roses that is grown.

Fleurette.—A slender and nearly spineless plant, with twigs and leaves tinged with red; the colour is bright red, and blooming as it does rather early, renders it a desirable variety.

Wellington.—Although an old variety, is nevertheless a splendid rose, very hardy, and an abundant bloomer. The habit is graceful, slender, with shining leaves. The shoots are thickly set with spines, and the flowers are a deep purple.

Titus.—This is a very handsome variety, especially when just opening. The flowers are purple, and are produced in clusters.

Victor Tracy.—We mention this because it is not yet set for bloom.

Triomphe d'Angers.—We notice this for the same reason which induced us to mention the preceding. This rose is highly spoken of. We shall, however, notice it again.

Thornless Violet .- Like the two preceding, not yet in bloom.

Triomphe d'Laffay.—Of a French white colour, just opening into bloom. Rather tender.

Las Casas.—A strong growing kind, producing flowers much like the common cabbage rose.

Madam de Goursac.—Stiff, short branching, and most profusely set with opening buds, formed in very large clusters. This is admirably adapted for a standard.

Princess Augusta.—A large purple variety, and one of the finest of this splendid class.

Catel.—Dark and lurid purple; a handsome rose, very double, with reflexed petals.

Rivers's George the Fourth.—Much like the former, but larger. This and the preceding are both very good roses, and will probably ever be considered so.

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Bisarre de la Chine.—The rather dark purple flowers of this variety are much hid among the leaves.

CHINA ROSES-ROSA INDICA.

During the last two severe winters we have lost many varieties of this pretty but tender class of roses. The two or three noticed below, are, however, very hardy, and have endured the cold; and, although much injured, they are now in bloom. In milds easons, and when placed in sheltered situations, the numerous varieties of China roses are well deserving of careful cultivation; their bright crimson colours are perhaps unsurpassed in beauty by the gayest shades of colour for which the rose is so much and justly admired.

Rouge superbe, or La Reguliere.

Louis Philippe d'Angers.

Le Sombre.

Fenelon du Luxemburg.

Alphonsine:

Amiral de Rigny.

Gloire d'Auteuil.

Darius.

Duchesse de Berri, er Grand Val.

Duchess of Kent.

Indica gloriosa, or odoratissima.

Fabrier.—The last named variety is indeed a beautiful rose, and the colours the most brilliant crimson that we know. It commences flowering early, and continues to bloom without intermission till destroyed by the autumn frosts.

PERPETUAL ROSES.

The roses of this class are late in coming into flower, and none of the varieties are yet in bloom.

MINIATURE OR DWARF CHINA-ROSA LAWRENCEANA.

Jenny, Gloire des Lawrence, Petites Laponne, and Mouche, are now in bloom. We may mention that these singularly dwarf varieties seldom attain more than two, or at most, three inches in height, and there is a plant in this garden under the latter dimensions with a dozen full blown flowers, and others with a greater or less number, according to their size.

BOURBON OR L'ILE DE BOURBON ROSES.

Rosa Bourboniana.—In this class there are yet but few in flower.

Dubourg.— A strong and most abundant bloomer; is now opening its pale blush very double cupped flowers. Among the many beautiful varieties of this section of roses, Madame Desprez holds a prominent place; its rich and ample shining foliage, together with its numerous flower buds, is at present a remarkably distinct and striking object.

NOISETTE ROSES.

This much and justly admired group of autumnal roses originated with Louis Noisette, a nurseryman at Paris, in 1817. It was, however, first raised in America by the brother of the gentleman alluded to above. It is the offspring of the Musk Rose, fertilised with the pollen of the Common Chinese Rose. None of the varieties are yet in bloom, being later than many of the other kinds. The Cadot, Cerise, Conque de Venus, Berthagene, Charles X., and Anemonistora are now showing their numerous flower buds in various stages of forwardness.

Amongst the splendid varieties of Noisettes are some of the best pillar roses.

MUSK ROSES-ROSA MOSCHATA.

These are also late flowering kinds. The flower buds are not yet formed.

MACARTNEY ROSES-ROSA BRACTEATA.

This is a small group, characterised by its evergreen shining foliage. The only variety now in flower with us is the *Double Blush*, or *Victoire Modeste*. It will give some additional interest to this class when we state, that the well known and very excellent rose *Maria Leonida* is a Macartney Rose. This small but distinct group was named in honour of Lord Macartney, who brought the original plant from China in 1795.

THE EVERGREEN ROSE-ROSA SEMPERVIRENS.

The Myrianthes or Ranunculacea, and Felicite perpetuelle are coming into bloom. These are decidedly hardy, and both are excellent climbing plants. The colour of the former is creamy white, and that of the latter flesh colour.

HYBRID CLIMBING ROSES.

In this class we have several very ornamental varieties, such as Watt's Climbing Provence, fine rose; Miller's Climber, a bright pink; Clair, a crimson purple; Astrolabe, a rose colour. These are now profusely in bloom, and are very ornamental. No plants can be better adapted for verandas and trellis work of all kinds.

BOURSOULT ROSE—ROSA ALPINA.

In many situations the varieties belonging to this division grow freely, and flower most splendidly; but here, from being planted in an open bed in an exposed situation, they have not proved sufficiently hardy for the last two unusually severe winters; all have been killed but Gracilis.

AYRESHIRE ROSE_ROSA ARVENSIS.

Here are to be found many of the essential requisites of the Climbing Rose, such as great hardiness, a free production of shoots, and beautiful blossom. Some of the more prominent of these are the Blush or Perthshire, double lilac; the Countess of Lisven, double white; Ruga, this is well known to be a highly fragrant rose; Dundee Rambler, this is double white, and one of the best of the class; Elegans or Double white, this is a semi-double variety, with somewhat flaccid soft petals, and, therefore, not highly esteemed; it is, however, a most abundant flowerer, producing its blooms in very large clusters.

ROSA MULTIFLORA.

These are highly ornamental, but rather tender; they are excellent climbers and sub-climbers. The scarlet Grevillii or Russelliana has endured the severe frosts of the two previous winters. The whole of the other kinds have been either wholly destroyed or much injured. I need hardly say that this, although a small class, contains some of the finest climbing roses. The original Multiflora was imported from Japan.

The varieties of Multiflora, especially those the least inclined to climb, make beautiful objects as standard roses; the long slender branches, terminating with clusters of blossom, are especially adapted for this purpose.

We shall remark upon the various classes, and their varieties, at short intervals, during the season; and thereby be able to form an accurate opinion of the various kinds, so that, at the end of the flowering season, we may again refer to the subject.

June 28.

EDITOR.

ON THE DROSERAS, OR SUNDEWS.

Seeing a notice of the Dionæa Muscipula, in the 14th number of the *Floricultural Magazine*, page 44, I am induced to offer a few observations on plants of similar h^ubits, those curious annuals,

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the Droseras, rotundifolia and longifolia, which spring up abundantly on the wet peat bog on Thorne Moors; may be found in a few other similar situations in this country, and are in the greatest vigour during the whole of the present month (July).

The leaves of the D. rotundifolia are about half an inch in diameter, and those of the D. longifolia about 3-8ths of an inch broad and 1 inch long; the upper surface of each variety are thickly set with small red hairs, from the extreme points of which, at all times, exudes globules of a pellucid secretion like dew, from which the plant takes its name of Sundew. This liquid is so viscid, that if a small insect, or fly, alight on the leaf, or only brush one of the hairs with its wings in passing, it is immediately caught and held fast, until the hairs, gradually folding over, encompass it in a kind of net-work, and the leaf simultaneously curling up, causes its death in a short time: the latter property applies more particularly to the long-leafed Sundew.

Having put four plants of the D. longifolia into a saucer in the window, and supplied them plentifully with water, I placed a fly, just killed, on the centre of a leaf, on which the small hairs nearest the fly might be perceived slowly to incline towards the insect; after a short time, the larger ones on the edge of the leaf curled inwards, and in the course of a few hours the leaf was closely rolled np, from the top to the base. As I wished to ascertain, if possible, whether the plant imbibed nourishment through the hairs as absorbents, or only by the insects caught being washed to the roots of the plant, I applied drops of water to the back of the leaf in its folded state, and also inserted some inside, without effecting any change in its position; and I afterwards found that the viscid matter stuck very readily to wetted paper. I then placed another insect on the tip of a single hair, and having collected some of the glutinous fluid on a small slip of paper, I found that a much larger covered surface on the paper had not the same tractile power as the small globule on the hair; indeed, if the insect was forced a short distance from the plant, it seemed to be retracted, or sucked back again.

Slips of paper, stuck together with the fluid, easily separated when dry, and the fluid that appears so glutinous on the plant, seems to lose its property almost entirely, when taken off the leaf, or when spread on paper,



The leaf in which the fly was enclosed, after a week had elapsed, was pulled open, and the points of the hairs found to be closely attached to the body of the fly, which was completely deprived of all moisture; and the circumstance of the hairs in immediate contact with the fly being quite free from the viscid fluid, whilst a few others, at the base of the same leaf, were spread out and retained the globule, I think proves that a different process was going on in that part which was folded, from the open part of the same leaf. The plant appeared to have obtained nourishment from the fly, and the flower spike grew rapidly.

The hairs on another leaf being severed in the middle, no fluid was exhibited; neither, when healed over, do they again exude the globule.

The leaf of the Sundew forms a beautiful object for a powerful microscope; the hairs appear like pyramids of coral, beautifully veined and tipped with crystal; and the base is so full of pores or cells, and of such a variety of shapes, some of which are perforated quite through the leaf, so as to give it a most splendidly illuminated appearance.

C.

ON THE CULTURE OF THE MUSHROOM IN OPEN LAWNS. BY THE EDITOR.

We have recently had the privilege of being in company with a highly intelligent horticultural amateur, who, in course of conversation, referred to a circumstance which we think deserving of consideration. It is important, because it bears upon the culture of a much esteemed vegetable—we mean the Mushroom; and as the experiment is an exceedingly simple one, and in the power of all who possess a lawn, if only a few yards square, of giving the experiment a trial, at little or no expense of time or money, we shall offer a few remarks on the best means of carrying the idea into effect. It was stated that a gentleman, near Liverpool, had planted his lawn with mushroom spawn, and the result was a most abundant crop of mushrooms. Extravagant as this idea may at first appear, yet, when tried in loamy soils, in dry situations, it is far from improbable that it should not be attended with complete success. The process of planting the spawn might be performed

in the following manner: - Take a sharp spade, force it through the surface of the grass two or three inches, withdraw the spade again without disturbing the grass, and place it at one end, and at right angles with the first incision; force it again into the grass to the former depth, and then press the handle of the instrument backwards, until the divided turf opens sufficiently to admit the piece of spawn, which should be broken to the size of an inch, or an inch and half square; the spade should then be withdrawn, when, if properly performed, the turf will again fall into its place. It ought then to be firmly trodden down with the foot. We wish to attach much importance to the latter operation; for if the turf be not firmly pressed down, and made quite as hard as the surrounding ground, the effect would be, that heavy rains would very probably destroy the spawn. The distance at which the spawn should be planted may depend on circumstances, and, with much propriety, varied according to the taste and fancy of the operator. For ordinary purposes, we should recommend that the pieces be planted a yard apart every way.

In situations naturally wet, or if at all inclined to be so, the above plan would not be worth the trial.

We are not aware at what season the spawn was planted in the instance alluded to; but if planted immediately, it is not unlikely, that, should the autumn prove warm and moderately dry, mushrooms might be obtained the same season. Indeed, we are inclined to think July and August preferable to May and June for the planting of the spawn.

We are the more inclined to think favourably of this plan of growing the mushroom, remembering that particular fields and certain localities are often notorious for producing, annually, large quantities of mushrooms, and often continues to do so for many years, evidently shewing, that the spawn remains in the ground at least from year to year, clearly removing any objection that might appear to arise from a fear that the spawn would die during winter; but were this even the case, it might be renewed the following year. In dry soils, especially on sloping banks, we do not think this would require to be done. In such situations, the spawn, once introduced, would be very likely to remain.

EDITOR.



NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Thysanotus intricatus.—We noticed, last month, T. proliferus, introduced from the Swan River, as a plant of considerable merit. The present species is very distinct, its foliage being much smaller and more wiry than that of T. proliferus. The flower, also, is somewhat smaller, and of a different colour, approaching nearly to a lilac, and having a chocolate stripe down the centre of each petal. Though, perhaps, scarcely so showy as T. proliferus, we are inclined to rank T. intricatus as the most beautiful, on account of the peculiarly delicate appearance of the fringe with which each petal is edged. This species is, at present, very rare, being, we understand, only in one or two collections: we saw it blooming, with T. proliferus, at the Clapton Nursery.

Sollya salicifolia.—A very pretty little greenhouse climber, from New Holland. The foliage of this species is much narrower than that of S. heterophylla, more resembling, as the specific name implies, some of the narrow-leaved willows. In general habit, it is much less robust than the above-named species, but appears to be a more rapid climber; and as its flowers are of a very intense blue, it will prove a desirable addition to the Conservatory.

Chelone centranthifolia.—This very beautiful herbaceous plant is a native of Mexico, and is still very rare in our collections; while, at the same time, its merits are such as will make all, who delight in this department, anxious to possess it. C. centranthifolia throws up a fine spike of flowers, which are scarcely inferior in size to those of Pentstemon Murrayanum, and which rival, in colour the flowers of that much-admired plant. The inside of the throat is of a buff colour, streaked with scarlet; and the beard on the lip, which in this species is conspicuous, is also of a bright buff. This valuable plant is of easy cultivation, and a very free bloomer; and appears to do very well, during the winter, in a cold frame or pit, which will give it a decided superiority over the Pentstemon Murrayanum, which, though so very beautiful, is very difficult to manage, and is very liable to perish in winter. The

flowers which we saw were from plants raised from seeds, imported from Mexico.

Fuchsia dependens.—A Mexican species, much resembling F. fulgens in habit and mode of flowering. It is, however, decidedly superior to that species, inasmuch as it produces a much denser cluster of bloom, and continues in flower as long again. Its flowers are also of a much brighter colour than those of F. fulgens. It was introduced to this country, from Germany, soon after the arrival of F. fulgens from Mexico.

Pimelea, Nova Zelandiæae.—A species recently introduced from New Zealand, by Baron Hugel and others. The foliage is short and heath-like; and the flowers, which are of a dullish white, are produced in clusters at the axils of the leaves. Though not to be compared with some of the older species, it is still rather interesting, and worthy of a place in general collections.

Doryanthes excelsa.—The fine specimen of this noble plant, which we mentioned, in a former notice, as being in the possession of G. Glenny, Esq., of Worton, is now in full bloom; and its bright crimson flowers, and singular spear-like flower stem, have already been admired by numerous lovers of horticulture, who have been admitted by tickets to view it.

REMARKS ON THE CACTI.

BY ECHINUS.

The Cactaceous tribes having become objects of considerable interest and importance in the Horticultural world, a few remarks upon the habits and cultivation of this remarkable division of the vegetable kingdom, may not be unacceptable to the general reader; and, perhaps, the more so, because the interest with which cactaceous plants are now regarded, is of very recent date, and, consequently, but little has been written on the subject; while, as there have been but few collectors or cultivators of these plants, till within the last year or two, but few have had opportunities of becoming acquainted either with the names of individual species and varieties, or with the most proper mode of treatment. We have no intention, and, indeed, no ability, to write a formal treatise on this subject; but purpose simply to throw out a few hints, the

result principally of my own observations, without reference to any particular order or design.

The section mammillaria, being certainly one of the most interesting, we shall commence with it. The mammillaria is easily distinguished from the other cactaceous tribes, by the series of mammæ, or tubercles, which its surface presents, and from which its name is derived. Each of these mammæ or pips, is clothed or armed with a bundle of spines, varying in size, colour, and arrangement in the different species; and upon the size, colour, and arrangement of these bundles of spines, the beauty of the species very much depends, and those varieties are, generally speaking, held in the highest estimation, in which the spines are so dense, as nearly, if not altogether, to hide the mammæ. We shall reserve any notice of the habits of the mammillaria for a second paper, and shall close this notice with a list of a dozen mammillarias, which we would recommend to those who wish to make a commencement towards the formation of a collection of these interesting plants. We have selected such as may be obtained at a reasonable price, of any of those who keep collections of these plants for sale:-

Mammillaria acanthophlegma chysacantha cirrhifera columnaris coronaria densa Mammillaria flavescens glochidiata glomerata hystriæ neglecta pusilla

ECHINUS.

REFERENCE TO PLATE XLI.

VICTORIA REGALIS, Royal Victoria.

NAT. ORD. NYMPHÆACBÆ. CLASS POLYANDRIA MONOGYNIA.

We have previously noticed this plant, see Vol. II, page 239. But such is the interest which it has excited throughout the country, in the minds of those at least who take an interest in Botanical matters. The description of this plant, which has been given by the gentleman who examined it in its native situation, does indeed savour somewhat of the marvellous; and were it not that he is highly esteemed and recognized by the literary and scientific world, any such statement purporting to be the descriptive history of a living plant, had it been given under other circumstances, would have been very properly viewed with much suspicion.

The honour of discovering this remarkable plant is due to Mr. Robert Schomburgk, a German naturalist, travelling on account of the Royal Geographical Society, and assisted by her Majesty's Government, for the purpose of examining the natural productions of British Guayana. The latitude



which this plant is found to inhabit is between four and five degrees north and about fifty eight degrees of west longitude. It abounds in currentless bays and creeks of the River Berbice. In referring particularly to the circumstances of first discovering this plant he says "It was on the first of January, this year, while contending with the difficulties nature opposed to our progress up the River Berbice, that we arrived at a point where the river expanded, and formed a currentless basin; some object on the southern extremity of this basin attracted my attention. It was impossible to form any idea what it could be, and animating the crew to increase the rate of their paddling, shortly afterwards we were opposite the object which had raised my curiosity. A vegetable wonder! all calamities were forgotten; I felt as a Botanist, and felt myself rewarded. A gigantic leaf, from five to six feet in diameter, salvershaped, with a broad rim of light-green above, and a vivid crimson below, resting upon the water. Quite in character with the wonderful leaf, was the alternate tints, from pure white to rose and pink. The smooth water was covered with them, and I rowed from one to the other, and observed always something nev to admire. The leaf on its surface is a bright green, in form almost orbiculate, with this exception, opposite its axis when it is slightly bent up, its diameter measured from five to six feet; around the whole margin extended a rim, about three to five inches high, on the inside, light green, like the surface of the leaf, on the outside, like the leafs lower part, of a bright crimson." The stem of the flower is an inch thick near the calix, and studded with elastic prickles. The calix is four leaved each, upwards of seven inches in length, and three inches in breadth. The diameter of the calix is twelve to twenty three inches, on it rests the magnificent flower. When it first opens, it is white, with pink in the middle, which spreads over the whole flower the more it advances in age, and it is generally found the next day of a pink colour. It would appear, that the higher this Gentleman advanced up the river, the more gigantic hey became, and he says they measured a leaf which was six feet five inches in its diameter, its rim five and half inches high, and the flower fifteen inches across.

Our drawing of this plant has been made from a figure given in the Second Volume of the "Magazine of Zoology and Bolany," and the substance of the above remarks, have also been taken from a paper contained in the same work, being an Extract of a letter from Dr. Schomburgh, to the Botanical Society of London.

The industry and enterprise of British Botanists, but especially the more wealthy Amateurs of our country, leave but little reason to fear, that this magnificent aquatic, will long remain a desideratum to British collections. Indeed, we have been informed, that it is already in the collection of Messrs. Loddiges, of Hackney; but for the authenticity of this statement we cannot vouch. Under these considerations, we have the more readily departed from the usual course of figuring a plant which is not at present supposed to be yet in a living state in this country.

NOTICES OF NEW PLANTS.

EDWARDSIA MACNABIANA, Mr. Macnab's Edwardsia. [Bot. Mag.

NAT. ORD. LEGUMINOS E. CLASS DEDANDRIA MONOGYNIA.

This is an highly ornamental shrub, with pinnated or mimosa-like foliage, ridged stiff shoots, of a brown colour. The flowers are produced on the extremities of the short lateral shoots, and appears, in the drawing before us, to be so abundant as to nearly conceal the foliage and stems. The natural size of a single flower is about an inch in length, and from three-quarters to an inch across. The colour is a deep yellow.

It would appear, that scarcely anything is known of the history of this plant. A doubt is expressed, as to whether it may not be a seedling of E.

grandiflora; but it is directly observed, that "it is instantly dissinguishable from the ordinary form of that species, by its nearly equal petals, by the wide separation of the petals of the keel, and by its flowering when in full leaf."

It has continued to flower annually for several years; and on the South wall, on which (along with E. grandiflora and E. mycrophylla) it has grown, it has been found to endure the severity of the two last winters, with less injury than either of the two just mentioned.

Professor Graham says, Mr. Macnab feels more confident than I do, of its being a species, and, therefore, I have dedicated it to him.

PHILADELPHUS LAXUS, Weak-branched Syringa.

Bot. Beg.

NAT. ORD. PHILADELPHACE ... CLASS ICOSANDRIA MONOGYNIA.

A shrub, with rather large white flowers, and deep green coarsely serrated foliage. It forms a straggling bush, "not more than five feet high, but covering more than double that space upon the ground, with its long, slender, deep brown shoots."

It is a native of North America, supposed from the Southern States; and hence its less hardy habit, and the frequent injury it sustains from spring frosts. Although it endures our winters, the tender shoots are often injured by the slight frosts of April and May. It may be obtained, we have no doubt, in the principal nurseries.

GRINDELIA INULOIDES, Floa-bane-like.

Bot. Mag.

NAT. ORD. COMPOSITÆ. CLASS SYNGENESIA SUPERFLUA.

A coarse perennial herbaceous plant, two feet or more in height, with large, light green, and deeply serrated foliage. The flowers are deep yellow, not at all ornamental. A native of Texas, and raised in the Glasgow garden.

GESNERIA STRICTA, Upright Gesneria.

Bot Mag.

NAT. ORD. GESNERIA. CLASS DIDYNAMIA ANGIOSPERMIA-

This would indeed appear to be a most splendid plant. The colour is a bright red or scarlet. The flowers are short, but much swollen; and the outline of the upper surface is of a convex form. It is "nearly five feet high, the flowering portion extending to a foot, and more. Roots were sent of it, as well as dried specimens, by Mr. Tweedy, from Rio Grande, in South Brazil; and the blossoms were produced in the stove of the Glasgow Botanic Gardens, in July, 1835." As a stove-plant, this not only belongs to a very ornamental genera, but, we should think, it is one of the most ornamental of that genera.

EPACRIS COCCINEUS, Scarlet-flowered Epacris.

| Pax. Mag.

NAT. ORD. EPACRIDACEÆ. CLASS PENTANDRIA MONOGYNIA.

A valuable addition to this class of plants. Of course, the Epacris requires the protection of the green-house during winter, and is perhaps one of the greatest ornaments with which it can be adorned during the spring and summer months.

The plant in question is densely covered with foliage, and the upper parts of the shoots, for two inches, are surrounded with short tube flowers, of the deepest red. Mr. Paxton says—"The subject of this figure has been before noticed by us as a seedling, raised in the garden of Alderman Copeland, Leyton, Essex, under the management of Mr.Kynock. It flowered in the collection of that gentleman, in the early part of the present year, and was then purchased by Messrs. Low and Co., of Clapton, in whose establishment we were favoured, towards the conclusion of last February, with an opportunity of obtaining the annexed plate."

CEROPEGIA VINCÆFOLEA, Periwinkle-leaved Ceropegia. [Bot. Mag.

NAT. ORD. ASCLEPIADE E. CLASS PENTANDRIA DIGYNIA.

This is said to be an extremely handsome plant, with large copious flowers,

To us, it appears singular and curious. The leaves, as the name implies, resemble the vinca or periwinkle.

Its flowering season is September, and it requires stove temperature. The flowers are of the tub form, contracted in the middle, and expanding again at the extremity and are of a green and purple colour.

CYNOGLOSSUM CŒLESTINUM, Blue and white Hound's Tongue. [Bot Mag. NAT. OBD. BORAGINACE. CLASS PENTANDRIA MONOGYNIA.

A hardy biennial plant of ordinary beauty, with blue flowers, and large light green, hairy foliage.

DENDROBIUM JENKINSII, Captain Jenkins's Dendrobium. [Bot. Reg. NAT. ORD. OBCHIDACE &. § CLASS MALAXIDE & GYNANDRIA MONANDRIA.

An unusually dwarf species, with pseudo-bulbs, having a solitary oval leaf on each. The flowers are yellow, and comparatively large, each flower being supported on its own slender stalk, just rising above the leaves. In Dr. Wallich's notice of this plant, we find the following remark: "I am very happy in dedicating this very distinct species to my valued friend Captain Jenkins, to whom this garden and the cause of Botany and science generally, are deeply indebted."

The four following species resemble each other, but are distinguished thus-

- D. Jenkinsii Labellum, broader than long, repand slightly two lobed, shaggy, serrated.
- D. Aggregatum Labellum, broader than long, scarcely wavy, undivided, downy only near the base.
- D. Densiftorum Labellum cordate, repand, two-lobed, reflexed at the point, serrated.
- D. Griffithianum Labellum ovate, slightly hastate, serrated, downy except near the edges.

BLETIA PARKINSONI, Mr. Parkinson's.

Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a pretty species of Bletia, having a long slender flower stalk. The whole, both stem and bulbs, being destitute of leaves. The flowers are produced in a scattered form towards the extremity of the scape. They are on short pedicles, of a narrow lennier form, and of a rosy pink and yellow, colour. It has been sent to this country by Mr. Parkinson, H.M. Consul-General at Mexico, and flowered in the collection at Woburn Abbey, during January last.

LILIUM THUNBERGIANUM, Thunberge's Orange Lily. | Bot. Reg.

NAT. ORD. LILIACEÆ. CLASS HEXANDRIA MONOGYNIA.

Synonymes' Lilium bulbiferum.
philadelphicum.

This is another species of the splendid genus Lilium; although less ornamental than the Speciosum, already noticed in this Magazine, as having been figured in the Bolanical Register; it is, nevertheless, a very desirable plant. The flowers are very large, and orange coloured. Dr. Lindley says he has received Dr. Siebold's beautiful Flora Japonica, from which he has quoted the following. "Among more than twenty kinds of the Lily brought by me from Japan to Europe, and deposited in the Botanical Gardens, Ghent, are the varieties of L. Speciosum, now represented. To that with flowers rose-coloured, blotched with purple, I now give the name of L. Speciosum Kæmpferi, because it was the indefatigable Botanist Kæmpfer, who first made it known to Europeans. For the second, with pure white flowers, I preserve the Japanese name Tametomo, which it bears in its own country, in consequence of having been first brought by that hero from the Loo Choo Islands, as the Japanese assert. The beauty and fragrance of these two kinds, rank them amongst the meest maguificent of their genus; I should even say that L. Speciosum

Kæmpferi stood at the head of them all; if a variety of Lilium longiflorum, which I have seen in Japan, with flowers often eight or ten inches long, did

not dispute the palm on account of its sweetness.

"L. Speciosum Kæmpferi is cultivated all over Japan as an ornamental plant. Its true country is probably China, or rather Korai, if we may judge from its Korai, juri, or Korai Lily. It flowers in May and June in the Bolanical Gardene at Ghent; it did not flower in 1832, (the first time in Europe) till August. Like other kinds of Lily, it is freely propagated by scales; it does not, however, bear bulbs to the axils of the leaves. It succeeds very well in a cold greenhouse, and even in the open air, if protected."

The variety Tametomo, although it has pleased some Botanists to make a peculiar species of it, under the name of L. exmium, differs, nevertheless, only in its flowers being quite white, and the leaves being rather more distinctly stalked. According to some of the Japanese Botanists, it is found will, not only in the Loo Choo Islands, but also in the north of Japan; but it has, perhaps, been comfounded with L. japonicum, which is often wild in those countries."

To this Dr. Lindley adds, "I presume the Lilies called by the Belgians L. Lebrousardi, and L. punctatum, are both varieties of L. Speciosum.

CROCUS SPECIOSUS, Showy Autumn Crocus.

Bot. Reg.

NAT. ORD. TRIDACEÆ, CLASS TRIANDRIA MONOGYNIA.

A beautiful purple flowering Crocus, supposed to be a native of Crimea and Caucasus. It is also said to be naturalized in a meadow, near Warrington, where it flowers in September.

To those who grow a select collection of showy plants, this is one deserving of their notice, as an autumn flower. It may be purchased of Messrs. Osburn and Co. of Fulham.

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

DICHÆA OCHRACEA.

A plant with yellow coloured flowers, a native of Demerara, and at present in the possession of Messrs. Loddiges.

GREVILLEA THELEMANIANA.

This is described as "a beautiful New Holland Shrub, with numerous racemes of crimson flewers, and narrow pinnatified leaves."

CONOSTYLIS JUNCEA.

A native of New Holland, and is a ridged herbaceous plant, with leaves from six inches to a foot long, at the base of which grow campanulate erect flowers.

ACACIA CUNEATA.

Is a native of the Swan River; a drawing has been sent to Dr. Lindley, which he describes as follows; it appears to have glaucous, wage-shaped, truncated phyllodia (the kind of leaf peculiar to this section of acacia.) The flowers are yellow.

THYSANOTUS ISANTHERUS.

This fine species has letely flowered at Vienna. It is a greenhouse herbaceous plant, with very short leaves, rushy stems, from one to one and a half feet high, and large purple fringed flowers; and is said to be one of the handsomest of the genus.

ONCIDIUM UNICORNE.

Imported from Rio, by Messrs. Rollissons, of Tooting, where it has lately flowered. The flowers are yellow, and the species is readily distinguished by the singular horn on the lip, hence the name "Unicorn."

EPIDENDRUM CANDOLLEI.

A Mexican plant, with dull brown coloured flowers.

GLAUCIUM RUBRUM.

A biennial, with red poppy-like flowers.

ERYSIMUM PEROPSKEANUM.

An hardy annual, with bright orange sweet scented flowers, a native of the north of India, and highly recommended.

PAPAVER AMŒNUM.

A beautiful annual poppy, from the same country as the last; raised in the London Horticultural Society.

PIMELEA PROSTRATA.

This is known in the London Nurseries as the P. Zelandiz. See notice of New and Rare Plants, page 63.]

MALVA MAURITIANA.

The French give it the name of Zebra Mallo. The flowers are pale blush, deeply stained with rich purple veins. A hardy annual, and well worth growing.

SAPONARIA PERFOLIATA.

An Indian plant, of little beauty.

CENTAUREA PULCRA.

"A most beautiful annual."—" No plant can be more worthy of cultivation as a hardy annual."

VERONICA FORMOSA.

Described as a hardy shrub, and called pretty. The flowers are white, and the foliage small and neat. It has been grown in this garden for the last two years, both in and out of doors, but without bearing flowers; nor has it proved to be hardy here. In some instances it has, indeed, lived as an herbaceous plant, that is, the tops having been killed, the roots have survived, and sprung again during the following season.

REVIEWS AND MISCELLANIES.

Second Additional Supplement to Louden's Hortus Britannicus, including all the Plants introduced into Britain, all the newly-discovered British species, all the kinds originated in British Gardens up to March, 1839, with a New General Index to the whole work, including all the Supplements. Prepared under the direction of J. C. LOUDON, by W. H. BAXTER, and revised by GEORGE DON, F.L.S.

To Gardeners, Florists, Amateurs, and indeed to all who are in any way concerned in the growth and management of plants, the additional Supplement to the Hortus Britannicus will be a valuable acquisition. In this Supplement may be seen at a glance, the amazing accumulation of genera and species, that have been made to our collections since the publication of Loudon's Hortus Britannicus.

The First Additional Supplement was published in 1832, and consisted of twenty-two pages only, while the present occupies one hundred and forty. There is also a General Index to the body of the work and the preceding Supplement. This, although a Supplement, has been attended with a good deal of expense, and has evidently been got up with much extra

EXTRACT OF A LETTER, WRITTEN BY A LADY AT HOBART TOWN, IN JAN., 1839.—"How I thought of you at the Cape, that Paradise of flowers! Though the first bloom was over on our arrival, yet enough was left to shew what had been; nor, without seeing, can you imagine the profusion: there are actually no weeds. Our favourite little blue Lobelia is the chickweed of the place; the ditches and all damp places are filled with Cape Lilies; heaths of all colours, the Erica, I believe; coccinea growing very high; Diosmas, Crassulas, &c. &c. I saw a great deal of the country. With its general appearance I was disappointed; there are no trees. The Silver Tree, Protea, is the highest indigenous plant that I saw. There are Oaks in and about Cape Town, Constantia, Wyneberg, &c., and, indeed, wherever a house is built, a few trees are planted for shade; but the country, for miles, has nothing higher than heath, and, for the greater part of the year, is sterile-looking. But in the season, the whole face is covered with flowers; and such a face? Fancy acres of heaths, of all colours, interspersed with Gladioles, Ixias, Watsonias, Babiana, Lachenalias, &c. without end, all growing and flourishing in their native luxuriance.

"Some bunches of Mesembryanthemums, near Sir Lowry Cole's Pass, were actually too bright to look at. I lived in one constant ecstasy of delight, that

ecstasy in which we behold perfection: I could not see fast enough.

"We visited the Constantias; Great Constantia is beautiful; the soil is white, and looks like lime and sand intimately mixed. I thought of our gardener's recommendation of lime rubbish for vines.

"Van Diemen's Land is a direct contrast. This is a country of hills, fringed to the very top, and perhaps about the thickest vegetation in the world: all is evergreen, and one dense mass of gloom. At first sight it is sombre enough;

but, like a dark beauty, it has its charms.

"There is a harshness and dryness in the texture of vegetation here that is very peculiar; even their Kangaroo grass, anthistiria australis, which is considered so nourishing, is hard and hairy, or rather wiry. The flowering shrubs are extremely pretty, but the flowers are very small. The soil is very dry; but cultivation of any kind is only creeping in. A Horticultural Society has, this last year, been formed at Launceston; and it is to be hoped knowledge and emulation may thus be excited: hitherto, sheep, sheep, from one end of the country to the other."—Bot. Reg.

ON THE CULTIVATION OF PINKS.—I feel obliged to you for the favourable opinion you were pleased to express of the few specimens of Pink blooms, which I had the honour to exhibit at a late meeting of the Horticultural Society. The health of the plants, and the beauty of the blossoms, I attribute mainly to the mode of cultivation which I pursued with respect to them, a brief account of which I now subjoin, hoping, though the subject matter be trifling and unimportant in itself, that it will afford some gratification to those members of the Society who are fond of thowers, and who feel pleasure, in the admiration at least, if not in the cultivation of them.

I formed my pink beds, and planted them, about the middle of October; hey were six inches above the alleys, to enable the heavy rains to pass off during the winter. The soil consisted of a sandy loam, or, more correctly speaking, of a commixture of yellowish loam, common black garden mould, road grit, taken from the entrance to the Paddington Pond, washing it before it was used, and a good portion of rotten horse dung well incorporated with a good bottom of dung from the cucumber pits; added to which, I top dressed the beds in the beginning of May, after weeding and lightly hoeing the surface, with nearly an inch thick of rotten dung, passed through a coarse sieve, in which was a small quantity of one year old sheep-dung, the sweepings of St. John's Wood lane sheep pens. I watered them freely with the pipe of the water pot, between the rows, when the pods were swelling and showing bloom; for if the plants lack moisture at this stage of their growth, when the weather is generally hot and the ground dry, the flowers seem to languish, and never attain to that degree of perfection they would do if the beds were kept moist and cool. The top-dressing prevents the ground from cracking; and the rains and water from the pot passing through it, convey gradually a wholesome nourishment to the plants.

The effect of careful, over that of careless cultivation, was never perhaps more clearly evinced than in an instance in my own neighbourhood, this season. A friend of mine, who had received from me all the superior varieties of pinks, planted them in a bed, in the common way; and though they were pretty healthy, and sent forth sufficient blooms, they presented only a sort of uniform sameness, undistinguished by the lacing peculiar to each, which were so manifest in mine: a common observer would have said that they were pinks altogether different from mine.

Florists contending for a prize, and anxious to get their flowers large, leave three pods only upon each stem, and four or five stems to a large plant, two or three to a small one, cutting off the rest as they spindle up to flower. As soon as the pods are full formed, they tie a slip of wet bass round them, to prevent their bursting irregularly; and place a glass or other covering over them, when in bloom, to protect them from the sun and rain, thereby preserving their colours from being soon faded and tarnished.—Hort. Tran.

The vegetable and animal worlds present so much similarity in almost every thing which respects the generation of offspring, that the extent to which mules are permitted to exist in the animal world, might have been expected to point out the utmost limits of their existence amongst plants; for every animal is driven, by its instinctive feelings, to seek its proper mate; whilst an unrestrained and unlimited intercourse between plants is carried on by the incidental operation of winds and insects. But if the fruit tree obtained from the Almond and pollen of the Peach be a mule, nature has already permitted it to propagate offspring to an extent scarcely, if at all, known in the animal world. I have, however, heard it asserted, that female mule birds have been known to breed under similar circumstances; that is, with a male of the same species as the male parent of the mule; but, upon trying the experiment, it did not at all succeed in my hands. The mule birds laid eggs, apparently well organised, upon which they sat; but the eggs soon became putrid, and I had good reason to believe that the first pulse of life had never beaten in any of If hybrid plants had been formed as abundantly as Linnwus and some of his followers have imagined, and such had proved capable of affording offspring, all traces of genus and species must surely, long ago, have been lost and obliterated; for the seed vessels, even of a monogynous blossom, often afford plants which are obviously the offspring of different male parents; and, I believe, I could adduce many facts, which would satisfactorily prove that a single plant is often the offspring of more than one, and, in some instances, of many male parents. Under such circumstances, every species of plant which, either in a natural state, or cultivated by man, has been once made to sport into varieties, must, almost of necessity, continue to assume variations of form. Some of these have often been found to resemble other species of the same genus, or other varieties of the same species, and permanent habits, which were assumed to be species; but I have never yet seen a hybrid plant, capable of affording offspring, which had been proved, by anything like satisfactory evidence, to have sprung from two originally distinct species; and I must, therefore, continue to believe, that no species, capable of propagating offspring, either of plant or animal, now exists, which did not come as such immediately from the hand of the Creator .- Hort. Trans.

It appears to be the opinion of many, that there are now in cultivation mere than one or two varieties of Salvia patens. We expect the variations will consist in the colour and form of the leaves and stems.

Wentworth house, July 23.—In the Orchideous house we noticed a plant of Oncidium Baueri in bloom. The number of flower stems were five, and, when extended right and left along the flue, or front stage on which the plant was placed, it measured, from the extreme points of the shoots, 21 feet. Each shoot was covered, about two-thirds of its length, with the beautiful, though somewhat dull, purple and yellow flowers.



We also noticed a splendid object in full bloom, Stanhopia occulata, bearing six spikes of flowers, 18 inches in length; and, is the open border, a new Salvia, from Mexico, having very large oval and rather woolly or much pubescent leaves.

Mr. Murray, Curator of the Botanical Garden, Glasgow, has recently called at this garden, on his way to London, and from thence to the Continent, where he intends visiting several of the principal public gardens. On his return home, he will shortly enter upon the arduous duties inseparably connected with the formation of a new garden; it having been found necessary to remove the plants from their present situation to one entirely new.

A METHOD OF OBTAINING FLOWERS OF RANUNCULUSES.—The bed should be prepared the same as for spring planting, with the exception of being quite level with the path: this is necessary to preserve the fibres moist. In planting, instead of cutting out drills, and placing the roots at the bottom, I prefer having the surface of the bed sufficiently fine to allow me to dibble them in. I afterwards fill the holes, by covering the bed with a small portion of fine mould, which, with the depth the roots are planted, places them about one inch below the surface. As soon as the bed is thus finished, it should be well watered. Lime water should be used at this time, to prevent the worms drawing the roots from their places. The bed must afterwards be kept well watered with clear cow dung water (1 do not like horse dung for Ranunculuses), until the foliage makes its appearance. The bed should then be well shaded, never allowing the direct rays of the sun to come to it from nine in the morning till five or six o'clock in the evening, as I find that, during the summer, they act too powerfully on the soil for Ranunculuses. It appears to me, that when the sun is permitted to shine full on the bed, the earth is so much heated, that the moisture which is necessary for the growth of the plants, is not only evaporated too quickly, but also raised to a temperature so high, that the fibres near the surface are scalded, and, if not destroyed, certainly very much injured. The watering must be continued when necessary, still using cow dung water, as it increases the foliage and bloom very considerably. The time of planting the roots must depend on the time the blooms are wanted; to obtain blooms in September or October, they should be planted about the middle of July; but I recommend planting every fortnight or three weeks, commencing in February, which will keep up a fine succession.

QUERIES, REMARKS, &c.

SIE,—Would you, or any of your numerous correspondents, be so kind as to inform me, through your interesting Magazine, of the best and easiest method to destroy acarus, thrips, and the aphides, upon melon plants, in a frame, without injuring the plants! And having a very large aloc sirrulats, which is decaying at the caulis, [stem?] should like to know the probable cause. The plant has stood upon stone all the winter, but has always been taken out in the summer. An early answer to the above will much oblige a constant subscriber from the commencement.

July 12th, 1839.

S. S.

A gentleman in this neighbourhood has lately informed us, that he is now engaged in making experiments on the subject of destroying insects of all kinds, on melons, cucumbers, vines, and, indeed, plants of all kinds; and that, in the event of its proving satisfactory, he shall offer it to the public.—Ep.]

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARBENING.

NO. XL.—SEPTEMBER, 1839.

ORIGINAL COMMUNICATIONS.

ON THE LAGERSTREEMIA INDICA. BY T. C. BLLIOTT.

There is in the Exotic Conservatory here, a plant in flower, of the Lagerstræmia Indica, which, for beauty and splendour, is not surpassed by any shrubby exotic which I have seen. The flower is produced in panicles or trusses, at the ends of the young shoots of the current year: are from 3 inches to 8; inches long, and from 6 inches at the base to 3 inches in diameter. The colour of the flower is a bright purple; upon one truss, to which I paid particular attention, 42 florets have expanded (though not above 9 fully so at the same time), and others are yet coming forward. Upon the first opening of the flower, it is seen to greatest advantage, as the glittering golden yellow of the stamens make a dazzling contrast with the richly coloured petals, which are beautifully formed; the limb being gracefully waved and curled, and connected to the inside of the segment of the calvx by a longish narrow claw. The petals are 6 in number, and, when fully expanded, are about two inches across The plant here is 9 feet high, from the surface of the pot; 4 feet up it is without branches, when it forms a large spreading head, 8 feet in diameter. On the 26th of June last, there were 40 trusses partly expanded, with 88 others coming forward: since that time, it has been the admiration of all who have seen it; and though now upon the decline, is still an object of great beauty. In the early part of its flowering, a slight but agreeable odour was emitted, but latterly there has not been the least discernible smell. The soil in which it grows is a brown sandy leam, in a pot 18 inches each way.—Sir Joseph Radcliffe, Bart., my employer, informs me, that although he has hed the plant several years in his collection, this is the first time of its flowering, and attributes its doing so this year to our having cut out all the weakly and crowded branches from its head, and side spray from the stem. Just after it had made its first growth in spring, being liberally supplied with water, and all suckers, as they made their appearance, cleared away, it again commenced growing, and produced the flowers. Though I have met with the Lagerstreemia Indica in several collections, yet never before having seen it inflower, I am inclined to believe that it seldom does so in this country; but have little doubt, that if more care were bestowed on its cultivation, with a judicious thinning out of useless wood, as in the above case, this very valuable object might be much more frequently obtained.

T. C. E.

Rudding Park Gardens, Knaresborough, July 26th, 1839.

[We quite agree with our correspondent, in thinking this one of the handsomest of our shrubby exotics. It is not a scarce plant; but whether from
the want of sufficient between legs of its health, and the requisite treatment
it requires, or from a natural shyness to produce bloom, or, what is more
probable, the effect of both; such at least is the fact, that although we
have known the plant for the last 15 years, we have only seen it twice in
bloom. It is a deciduous shrub; and we have no doubt, were it well
understood and properly managed, it would produce its flowers very
freely. In the two instances in which its flowering fell under our own
notice, we believe the plants had been subjected to a good deal of cold
during the winter, and the earth in the pots kept dty. We can bear unqualified testimony to its beauty; when in full bloom, it would, indeed, be difficult to conceive a more ornamental and truly spleadid object, and is well deserving any amount of care in its cuttivation.—Es.]

ON CONSERVATORY PLANTS.

BY IDA.

As a reply to the query of a "Young Gardener," I beg to hand you the following list of Conservatory Plants, accompanied with a few remarks on the interior arrangement and formation of the beds, which may, perhaps, to some of your readers prove interesting and useful. In forming Conservatory beds, the whole of the soil should be removed to the depth of 4 feet, and in the centre of the bed or beds, a drain should be formed, communicating with the outside, to carry off the superfluous moisture, on this, and also over the

whole of the bottom, a layer of stones for brickbats should be laid, a foot thick, on which the soil is to be placed. In doing this commence by laying a stratum of turf, previously chopped and turned, but not rotted so as to fall in pieces: this will keep the finer earth from mixing with the drainage. On this, place a compost of equal parts of light yellow loam and sendy peat, which should be prepared some months previous. The neds being filled with this compost, moderately trodden during the process, are fit for the seception of the plants. It is necessary that the soil should be as dry as possible at the time of placing at in the beds, and also that an allowance be made for settlement. For a bed of the above depth, an allowance of about 6 inches will be sufficient; indeed, it is always better that the bed should appear rather high and full han otherwise, as this latter defect is not to be remedied afterwards, except by the addition of soil, which would bury the roots of the plants at too great a depth; a circumstance which must be guarded against. In the management of Greenhouse Conservatories, air cannot be too freely admitted, even in winter, so that the temperature does not fall below forty degrees, nor should it exceed fifty degrees by artificial means. On this point depends the success of growing first-rate specimens. In regard to water, great caution must be used that the trees neither become too dry at the root, nor soddened with an excess. Frequent syringing is also highly beneficial, particularly during summer.

GREENHOUSE PLANTS, ADAPTED FOR A CONSERVATORY.

Accacia, armata, diffusa, pulchella, vestita, verticilata, rutafolia, affinis. C. Adenandra, miflora, amœna, D. Banksia, speciosa, latifolia, C. Beanfortia decussata, C. Bossizea linophylla, ensata, mycrophylla, E. Boronia serrulata, F. Camellia, approved sorts, C. Chorizema, ovata, cordata, Henchmanii, E. Corræa speciosa, C. Crowea saligna, C. Callistemon speciosa, C. Cytisus racemosus, C. A. Cytisus Rhododaphne, C. A. Daviesia latifolia, C. Doryanthes excelsa, C. Dillwyhia, glicinefolia speciosa, glaberimma, E.

Epacris, grandiflora, nivalis, impressa, D Eutaxia myrtifolia, C. Grevillia rosmarinifolia sulphurea, C. Hovea celsii, purpurea, manglesii, and all the genus, C. Hibescus splendens, C. A. Indigoffera, speciosa, australis, C. Lambertia formosa, C. Mirbelia Baxterii, E. Metrosideros floribundus, C. Pimelia hespida, sylvestris decussate major, E. Prostanthera violacea, E. Polygala grandiflora, cordifolia oppositifolia, C. Rhododendron arboreum, E. Telopea speciosa, C. l'empletonia retusa, C.

CHINEING PLANTS, ADAPTED FOR A CONSERVATORY.

Bignonia capseolata, jasminifolia, C. Clematis cerulea, Sieboldii, C. Doltehos specifistus, A. Apomea rubrocorulea, A. Jasminum grandiflorum, C. Kannedya, coccinea, glabra comptoniana, marryattii, pigricans, prostrata, monophylla, ribicunda, C. Lophespermum grandiflorum, A. Loasa aurantiaca, B. Maurandia, Barclaystus, lucida, B. Mimosa marginata, C. Passiflora, incarnata, cæruleo-racemosum, Londonit Kesmeasnum, C. Physianthus albicans, C.

Philibertia grandiflora, C.
Rhodochyton volubile, A.
Sollya heterophylla, C.
Tecoma australis, jasminides, C.
Tropæolum, brachyceras tricolorum,
pentaphyllum, B.
Thunbergia, alata, alba, B. C. D.
Explanation of the above.

Explanation of the above.
A, light, rich, loamy soil.
B, sandy loam.
C, ditto and peat, equal parts.
D, peat soil.
R, turfy loam and turfy peat.
F, turfy peat.
G, loam, peat, and sand, equal parts.

[The preceding remarks, on the formation of Conservatory borders, will be found good and practicable. We think six inches are, perhaps, scarcely sufficient to allow for the settling of the earth in the bed. This is an important point, because, when the earth sinks below the floor, which usually stone, the beds have a very bad effect, and if filled up, it buries the roots and covers the stems, an evil productive of the worst possible effects. First, because it is generally an object, in the culture of Consesvatory plants, to induce them to attain maturity while they are yet of limited growth. Secondly, to obtain the greatest quantity of flowers, and at the earliest possible period. It is a principle, long established by practical observation, that the roots of plants, buried deep in the earth, promotes the development of shoots and foliage, and thereby operates in direct opposition to the production of flowers. To check the luxuriant growth of plants, and increase their tendency to produce flowers, the roots should be kept as near the surface as possible; and, where practicable, if raised on slight mounds, so much the better.

The preseding list is not only well adapted as a selection for a Conservatory, but many of them will be found well adapted and amongst the most ornamental for cultivating in pots in the greenhouse,—Epiron,]

SOME ACCOUNT OF THE PÆONY. BY BELERIUM.

"The great fault of these books is, that they generally abound in dry technical details."—Metrop. Mag.

The richest colours, finest forms, luxuriant and variously tinted foliage; added to hardiness of constitution and easiness of culture, have failed to attract a tithe of the admiration which is justly due to this most showy border family. To endeavour to trace the causes of their general neglect, to shew their great claims (as highly ornamental plants,) to an introduction into well-kept gardens, and to cursorily notice their history and culture, I shall go into such details as I hope will be agreeable to the general reader, and useful

to the young florist; and in some degree directification of my brother amateurs to the cultivation of my premiable a genus for hybrid intermixture, as is to be found in the whole of our Flora. As an earnest of what may be expected, I would refer to the splendid hybrid "Makoya" raised in the Botanical garden at Ghent, and so finely figured in the March number of your Magazine, a flower which will be of more permanent interest and value than any of the herbaceous sorts hitherto cultivated.

That the merits of the herbaceous pæonies have been so greatly overlooked by cultivators in general, is matter both of surprise and regret, and is partially owing to the vague impression of their coarseness and vulgarity; these we notions are the diseased redundancies of an over finical taste, formed by the exclusiveness of the fashionable-gardening-mania, which delights in excluding from "the light of its countenance" all such flowers as are immates of the "Cottage garden."

That this opinion of coarseness should have been conceived by really scientific writers, is astonishing; Mr. Rennie, even observing in his popular and useful work, the "Flower Garden," that "these plants are not proper for any neat border or parterre, answering best at the corners of shrubbery walks." This is an objectionable passage, and I hope that when the next edition of his work is called for, it will be expunged, and as able an essay on the genus inserted in its stead, as that on the Reambeau, is the same work; and should the Makoya fall in his way, I have little doubt of his doing so, as he says "that although these flowers are not at present considered acrist's flowers, it is probable they will become so;" a hint which I hope will be appreciated.

I found their greatest claim to general culture, updir the Scaled principle that shewy colours and hardiness of constitution, are essential properties of the most desirable flowers; and that such flowers are to be preferred to tender plants of similar beauty, because the expense of pretecting, and the trouble of cultivating the latter, precludes their being kept by Amateurs of limited means, or little feisure, and even counterbalances the pleasure of their possible. I do not wish to deprecate the culture, or lessen the beauty of half-hardy exotics, nay, I would encourage the one, and land the other, well knowing the beauty of many of the species and varieties; but would shew that the hardy ones ought to take pre-

cedence, because they are available to all. The appreciation of the beauty of a florist's flower, (say a tulip,) is the result of a gradually acquired taste, and is often of a most exquisite nature; it is not, however, that natural and spontaneous love of the bright and the beautiful, which the beneficent Creator has implanted in the hearts of all his creatures, and which love has nothing in it of an exclusive nature, but is decidedly inclusive; it

"Loves sweet flowers of every sort, . High spired or trailing low;"

and it is from these views and feelings, I would endeavour to promote the culture of such flowers as shall in their beauty commend themselves to the admiration of visitors in general, and by their gay colours enliven the flower garden when distantly viewed. That this genus is admirably adapted for the latter purpose, is obvious to all; their colours being generally rich, and of every shade from the purest white to the deepest crimson, and the form as extensive the colour from the rich single Barterii, to the double Officinalis. There is another recommendation, and that is, the dealightful fragrance of many sorts; for instance, the Odoratissium, and the Fragrans, which have a fine rose-like scent.

I must not detain the reader with the ancient history of the Perony, this I leave to the lovers of musty learning, who, in catching a ray of Latin, often defile it; and merely saying that the "Comiline" found on the Flat Holmes, an Island in the Bristol Channel, is the only indigenous species to this country, come down to the time of the introduction of the Officinalis from Switzerland, in 1662. Lord Bacen, about the year 1600, engments the "Double Parony" among his "list of April flowers for the royal ordering of gardens.". The HormHis, from Spain, followed in the year 1633; these, I believe, were the only species introduced until 1765, when the "Tennifolia" was received from Siberia; and from 1788 to 1800, thirteen other, species and varieties were introduced from the Levant, Siberia, and elsewhere. Since this period, numerous species and varieties have heer introduced from our continental friends, from Chime, and several varieties raised in our own gardens; I cannot connectly say how many distinct sorts are at present cultivated, but should fancy about one hundred.

The culture of the herbaceous sorts is so simple as to need few

details; in the autumn the branches should be cut down, and a little decayed manure put over the plant to protect it from the severity of the winter, and to enrich the soil; this should be added to in spring, just as the flower stems are being thrown up, as it greatly invigorates the plant. Shortly afterwards, each branch should be separately secured to a neat stake; as the plant grows rapidly, these are soon hidden by the foliage, and are of the greatest advantage in keeping the plant in a proper position. To give it the necessary air and light, as well as to secure the flowers, only the terminal bud upon each branch should be left to flower,-the lateral buds greatly impoverish the terminal one, and as they rarely expand sufficiently to be ornamental, they should be removed as they appear. The flowers by being kept in an erect position, open very regularly,-they require no further attention to get a fine bloom. The whole of the species and varieties are increased by division of the root; or, if the sort is valuable, by grafting in the commoner sorts. I have never, however, seen this method tried. The seed may be sown as soon as it is ripe, and will be several years before it flowers; the young plants will require an annual application of manure.

Of course in hybridising, the crossing colour upon form should be attended to, agreeably to the deductions of our ablest physiologists. It would also be desirable to obtain as many fragrant varieties as possible; these things, however, will of course suggest themselves to the scientific operator, and are only hinted at for the consideration of the mere learner.

For the information of persons beginning to form a small collection, I beg to notice a few sorts well worth growing. As, however, I live at a great distance from the metropolis, it is probable that many sorts exceeding in beauty some of these named, are in existence there; any one who would take up this subject, and carry it out so as to make the two essays a complete epitome of information on the Pæony, would do me and many others a kind service.

Bufferit Single, glossy, crimson, beautiful bright yellow centre, and finely cupped.

Foliosa-Light crimson, fine foliage, very fine.

Lobata-Neatly shaped, pink, single.

Officinalis Carnesens—Splendid crimson, rich centre, single, very fine.

Pallish—Elegant shape, deep and broad flower, of a very delivately shaded pink select; quite a gem, and should be in severy garden.

Officination Albiouss—After the same style as the preceding, "alike, but different," not quite so large a flower.

Albiflora Chinensis.—Is quite unique, and perhaps one of the very best yet in general culture; it may not be irrelevant for me to say here, that this plant has elicited more praise than any small; but select collection; its fine foliage, meet habit, and pure white flowers, render it an object of universal admiration to all who have seen it. I was rather amused at the expression of a Lancashire florist, who called upon me a few days since, a man who could only be eloquent upon the Auricula and the Tulip. "I pity any man's taste who can cultivate Geraniums or Dahlins, but truly that is a fine plant, and worth growing." It had seven fully blewn flowers, of from seven to eight inches in than seven fully blewn flowers, of from seven to eight inches in the proper place, to shew the unfounded nature of the supposition that they are unfit for small neat gardens.

Humeii, Fragrans, and Odoratissima—Are finely shaped, the two datter finely scented, and the three are indispensable to collections, if only of moderate pretensions. The colour is variously shaded, rosy, and blac.

Potteri, and Rhevessii—Are new, and well worth growing, the flowers of the former are neat, and of a pretty light pinkish colour, the latter is of a rish crimson.

I hope I have not been more lengthy than the importance of the subject demanded, and that your readers will have no objection on a future occasion to follow me into a further account of a most interesting section of this family, vis., the Moutan or Tree Pasony.

Cornwall, 1839.

В.

My next communication will be "On the Use and Abuse of Gardening Periodicals."

[The preceding very excellent communication, is sufficient warrant to us in saying, that the paper on the Moutan Peony, will be most acceptable; and we have no doubt our valued Correspondent will be equally acceptable on the latter interesting question.—Ed.]

REMARKS ON CACTI.

BY ECHINUS .- MAMMILLARIA.

The vegetable kingdom presents a wide field for speculative research, and a more intimate acquaintance with its productions must serve to confirm, in the mind of every intelligent and reflecting abserver, the assurance, that the wonders which he admises are the results of infinite wisdom and unerring design. But to the limited ecapacities and restricted knowledge of man, the uses of many of the creations of infinite wisdom are unapparent; and, at the first glance, we may feel inclined to doubt the usefulness of a tribe of vegetables so fiercely armed as the subjects of the present notice. Upon a closer examination, however, we find, that in the countries which they inhabit, the Cactaceous tribes have various uses, one of which appears to us to show forth, in an equal degree, the wisdom and benevolence of their great Creator. In the Tropical plains, which are generally the habitats of Cacti, at certain periods of the year, very great drought prevails, the springs are dried up, the watercourses are deserted by the cooling streams, and all animated nature languishes under the parching influence of a tropical sun. At such periods, the wild cattle, and other inhabitants of the forest, attack the Cactaceous tribes, by the cooling juices of which they are preserved from death. Here we see the benevolence of God, who provides for the wants of every living thing; while, as the same time, his wisdom is displayed in arming these reservoirs of life with such sharp and poisonous spines, that it is only when all other sources fail, that the wild animals attack them; and they are thus effectually reserved for those emergencies in which they possess so great a value. With this thought, we shall proceed with greater satisfaction to a consideration of the habits of the Mammillaria.

The Mammillaria is found principally inhabiting the elevated plains of Mexico and Peru, growing generally in rich loamy soils, and often in strong rich clays. From their elevated position, these plains are comparatively cool. It may also be useful to remark, that on an average, heavy rains fall in such regions during four menths out of every twelve. The various species, then, of the Mammillaria, may be cultivated with very little artificial heat; and they

thrive most in light, rather rich soil, having a small proportion of loam in it; for they will not, in a cultivated state, flourish in such strong retentive soils as in their natural habitats. They require a light and airy situation, and, in winter, should be kept as near the glass as possible. When in a state of growth, they should be watered occasionally; but during the darker months, should be supplied with very little moisture. We name a few more desirable varieties:—Depressa erinacea, Nivea prolifera tenius, Andrew, Caput medusæ, discolor, eriacantha, intertexta, Lehmanni, longimamma.

REMARKS MADE DURING A GARDENING TOUR. BY THE EDITOR.

Louth, Lincolnshire.—While on our way to attend as a judge at the Louth and neighbourhood Floricultural and Horticultural Show, held on Tuesday, July 30th, we were much struck with the taste displayed in the growth and prevailing use of Honey-suckle trained over the doors of cottages, and in many instances over the porticos and windows of houses of a superior kind.

The honey-suckle is one of those plants that, wherever it is found, is never out of place; but if there be any situation where it is peculiarly appropriate, and where its effect is pleasing in the highest degree, it is when seen forming its natural but careless festoons around the doors and windows of the humble but neat and orderly dwellings of the poor. For decorating the cottages of the humbler classes of society, there is an appropriateness which cannot be found in any other plant; and if ivy and autumn flowering roses were added, perhaps nothing would be wanting to make the picture complete.

On the left of the road, several miles before we arrived at Louth, we passed the residence of the Bishop of Lincoln, a modern mansion, built of light coloured stone. It is well wooded, and contains excellent materials for extensive improvements; its appearance at present being very common place, and the water which occupies one of the views from the south front is seen in a contracted opening between the woods, forming two lumpish ponds, with naked banks at some distance from a tree or bush of any kind whatever. Nor is this the worst feature of the scene, they are

divided by a narrow but steep bank; and although both are seen from the same point of view, and within a few yards of each other, yet the level of the one is five or six feet above the other. diately beyond these ponds, as seen from the front of the house, is a deep sunk fence, forming the boundary between the grounds and the public road, with the bottom of the fence apparently lower than that of the ponds. Indeed, anything less natural, or any thing less artificial cannot easily be conceived than these ponds, whether seen from the mansion or the public road. To make water pleasing, or even tolerable, it ought at least to appear from the principal points of view, in such a situation, and to present a form somewhat reconcilable with natural causes; but nature, although infinite in variety, is ever consistent to a fixed and unalterable law; and in the formation of these ponds this law has been set aside, otherwise we should have found the water, instead of accumulating on the higher ground, and supported by a steep and shrupt bank, to have settled in the lowest situation. Water is one of the most interesting objects of embellishment that can be introduced into any place, whether on a large or small scale; and hence the universal desire to possess it, and the unmixed approval and admiration which it excites whenever it is seen in proper situations. In mountainous and hilly countries, such as Wales, Scotland, Derbyshire, or abrupt and rocky scenery on a more limited scale, pools, ponds, and even lakes of considerable magnitude are met with on the sides of hills, and even on the tops of mountains; but here the mind is at once convinced that the ceaseless current can make but little impression in wearing away its rocky bed, or it may be the narrow cliff that resists the pressure of the watery element, forming the lake or pool, as the case may be. But whilst we are in the habit of regarding such scenes as natural, it is because the situation renders them so; but in a low and level country, like that surrounding the mansion in question, a pool or pond, formed on the side of a hill or steep bank, with the lower ground seen at the same time in close connexion with each other, is obviously in bad taste and indefensible on principles of common sense, and are, therefore, but seldom met with. Having used the terms natural and unnatural, we shall make the few following temarks, lest we be misunderstood.

A lake, or pond, or water in any of the endless forms in which



it is capable of appearing, may be perfectly appropriate, and in good taste, whether displayed artificially or naturally; for instance, it is artificial, yet in perfect good taste, to see water trickling from the sides of a raised and highly-embellished vase, requiring only that the surrounding accompaniments be in accordance with it; or water may be introduced with equal propriety in ponds of various forms: no matter whether they be square, round, or in any other form, all that is required in such cases is, that the whole scene be consistent and avowedly the work of art, and that the water be made secondary and subservient to the general arrangements. It may be natural, by being placed in the lowest part of the grounds, where it should form the principal feature; all other arrangements, as objects of embellishment, being relative and secondary, designed only to aid in rendering the water the chief object of attraction. We have been led to make these remarks, from the strong but unfavourable impression made upon our own mind from seeing the ponds in question, raised one above the other with their steep naked banks and shapeless outline.

The town of Louth is situated in a valley, in the midst of a rich and fertile district. The general aspect of the country for several miles, presents an appearance of unusual luxuriance. Here agriculture is the principal object that engages the attention of the capitalist; and some of the farms contain as much as two thousand acres, with the fields of proportionate magnitude, many having upwards of one hundred, and some two hundred acres or more under the same crop. On entering Louth, the improving character of the town is marked by several new and very neat cottages, erected for the poor, on the estate of - Smyth, Esq. Louth, as a town in the midst of a rich agricultural district, presents a striking contrast to the towns of similar extent in manufacturing districts; here are to be seen many villas, where the proprietor might be supposed to spend from five hundred to a thousand per annum, or upwards, with neat and well kept gardens and pleasure grounds. That portion of the town which is occupied by the poor is very limited.

In the cottage gardens around the town and neighbourhood, the English Mercury, Chenopodium Bonus Henricus, is cultivated for spinach; the beds are prepared in the manner of asparagus beds, by digging out the earth some depth, and filling the space

with well decayed manure, this is covered with earth and young roots or seeds are planted; in this way the plants become vigorous, and produce thick succulent shoots, in the manner of asparagus. It is very hardy and productive, and is cooked in the same way as asparagus.

The Exhibition was held in the school room, the plants, fruits and flowers, were displayed on the ground floor, and the vegetables in a separate apartment above. The plants were as numerous as could be expected under the circumstances, considering that the unfavourable weather would very much affect those who had to bring their things some distance, and this was the case with many.

The cut flowers were very good, especially some stocks and larkspurs, the latter were particularly fine. Amongst the plants, was a specimen of Ruella cilliata, from Mrs. Allington, apparently a variety; this is a scarce, but old plant. There was also a collection of 10 varieties of the newer Verbenas. A Fuchsia fulgens, from the Rev. H. Benson, was very fine; from the same Gentleman were some handsome new annuals. Many of the vegetables were very fine, but what was more particularly deserving of notice, was a plant of parsley; we measured one leaf, and found it to be twelve inches from the part of the stalk, where it commenced to branch, to the extremity, and nearly of equal breadth: the whole of the leaf was completely double. This is the finest specimen of parsley we have ever seen. There was also a table devoted to the cottagers' articles, which were very good. Several good things, though not for competition, were kindly sent to the exhibition by Miss Ansell. regret our inability to notice more particularly the various awards, having been unexpectedly compelled to leave Louth immediately after the judging was completed. We passed through Grimsby, and from thence to Hull, and called at the Botanical Gardens the same evening. Within the last few years, and especially during the last twelve months, this garden has undergone considerable improvement: an addition has been made to the glass, and the open borders have been renovated, and are now well stocked with choice herbaceous plants, and others.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Lobelia Heterophylla—A beautiful annual, inhabiting the Swan River settlements, in Australia, whence it was first imported by Robert Mangles, Esq., in 1836. It is, however, but very partially known at the present day, having been seen in very few collections, and having, indeed, been nearly, if not entirely, lost again to the country, since the period of its introduction. Seeds have, however, been recently received in considerable quantities, and we hope this lovely little plant will soon be in general cultivation. Its flowers, which are of a large size, are of the deepest blue, while the eye or centre of the flower, is of a pure white. It grows about a foot high, and is a very profuse bloomer, and is decidedly one of the most beautiful of all the annual tribes which are cultivated in our gardens.

Smith's New Scarlet Geranium—Among the novelties of the day, is a new variety of the scarlet geranium, which is well deserving of a notice: for although its progenitors do not at the present epoch make much noise in the botanical world, they are, nevertheless, invaluable in their station, and if withdrawn, would have a fearful gap in the flower garden. The present variety is very superior to any of the older ones. Its flowers are shown on a strong bold stem, and are very superior both in shape and size; the colour is also excellent, and the head of bloom uncommonly large. The foliage is fine, and the habit of growth good. We should recommend our readers to obtain plants of it as speedily as possible.

Bouvardia Angustifolia—Although not a new plant, the subject of our present notice is a very rare species, and we may add a very beautiful and interesting species. It is of more robust growth and habit than B. triphylla, and its flowers are much larger than those of that favourite old plant. Its flowers are of the most brilliant scarlet, but the mouth of the flower is generally of a rosy pink colour; though it is not unfrequent to find in the same head some blossoms, the mouths of which are of the same brilliant scarlet as the tubular part of the flower, while those of the remainder are of the rosy pink described. There are few plants



1 Thorsandhur internet I receive takke

which present a more dazzling appearance, than would a well-grown specimen of B. angustifolia, when in full bloom.

Lathyrus Latifolius Albus—This truly beautiful plant is now exhibiting its spikes of delicate white flowers in great perfection, and it well deserves a place in every collection.

Cereus Calicochos-Of all the odd forms which the Cactaceous , tribes present, and assuredly many of them are not a little singular, that of Cereus Calicochos appears to us the most remarkable. Its form is that of a large and nearly globular mass, divided by deep indentations into five equal angular sections, presenting the appearance of a rib or ridge. The ground colour is of a very deep green, but the surface of the plant is nearly covered with very minute white knots or excrescences, which present the appearance of a kind of network, and produce a remarkable effect. The plant altogether presents a remarkably coarse appearance, and brings forcibly to one's mind, the huge clumsy exterior of the elephant. We believe this curiosity has been procured from the Interior of Brazil, and we are not aware that it has yet flowered in Europe. What kind of a flower such a plant will produce, we are at a loss to imagine. This plant is very rare, the few specimens in the country having been purchased at very high prices.

Tweedia Coccinea—This beautiful plant was exhibited at the last exhibition held at Stafford House, and attracted universal admiration. Like T. cœrulea, it is of climbing habit, but its downy leaves are nearly round, and it produces spikes of flowers similar in form to those of T. cœrulea, but of a brilliant scarlet colour. It will form a desirable addition to our stove climbers.

REFERENCE TO PLATE XLII.

ONCIDIUM PAPILIO. Butterfly oncidium.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

The genus Oncidium holds a distinguished place among the very curious plants to which it naturally belongs. Not a few are esteemed for their beauty, such as O. lancianum, others both for beauty and their graceful habit, such as O. altissimum, O. luridum, O. Baueri, &c.; of the latter we recently saw a specimen under the care of Mr. Cooper, at Wentworth House, on which were five flower stalks, covered with their lurid or light brown mottled flowers. These scapes or flower stalks were trained right and left on the flue over the tops of the other plants, and measured from the extremities of the branches upwards of 20 feet. In the genera and species of orchideous plants by Dr.

Lindley, this plant is designated a variety; but when the very slight distinctions are considered, by which many of the spines are separated, we are inclined to pay full deference to what appears to be the common consent of cultivators, namely to retain it as a species under the name O. Baueri. We think it very distinct from Altissimum, both in habit and the colour of the flower; the latter is of a lighter bue, and the former is much more flexible and waved on the edges of the leaves. Besides these, others are especially remarkable, on account of their singular structure, and we have an example of this in the figure before us. It is not only in the shape and outline of the flower by which some strange lepidopterous insect is so forcibly pourtrayed, nor is the coincidence of the colours less striking. The flower stalk is also slender, and, owing to its colour, nearly invisible, on the extremity of which a single flower is poised, which, by the slightest breath of air, is set in motion, and at a short distance has all the appearance of life and locomo-Although a solitary flower is all that is open at one time, yet such is its endurance, that the same stalk will continue to produce a succession of flowers for many months, probably for years. It prefers to grow on a piece of decaying wood, such as has become soft and retentive of moisture, into which the roots can insinuate themselves. In this way it is grown here, and with pretty good success. The flowers remain open about ten days or a fortnight. It is a native of Trinidad, and requires the usual temperature of the stove.

We believe it has recently been stated to us that Messrs. Rollinson, of Tooting, possess a species nearly related to the one we have figured; but having much larger and white flowers. We mention this, but cannot vouch for its authenticity.

Below we give a list of the species belonging to this genus, with the view that it may assist those who are interested in collecting and cultivating this curious, showy, and now justly admired family.

Oncidium crispum. Lodd. Bot. Cab. 1854-Brazil.

nubigenum. Lindl. in Hooker Bot. Misc. ined—Peruvian Andies. viperinum. Lindl.—Uruguay.

This is closely allied to O. bifolium. The crest when seen is profile, resembles strikingly a cluster of young vipers' heads. bifolium. Bot. Mag. 1491, Lodd. Cab. 1845-Monte Video.

pauciflorum. Lindl. Cell. Bot. p. 27—Mexico. tetrapetalum. Willd. spe. pl. 4, 112—Jamaica. Willd. sp. pl. 113-St. Domingo. variegatum. cornigerum. Bot. Reg. 1542—Brazik. pubes. Bot. Reg. 1007—Brazik.

flexuosum. Bot Mag, 2203—Brazil. fimbriatum.—Brazil.

ciliatum.—Brasil,

barbatum. Lindl. Coll. Bot. t. 27—Brazil.

altissimum. Bot. Mag. 2990-Jamaica. pictum Kunth. N. G. et. sp. 1, 346, t. 81.

funereum exam. S. sp. in Herb. Lambert-Mexico.

Carthaginense Syn. Epidendrum Carthaginense. Bot. Mag. 777. luridum. Bot Reg. 727-Jamaica. This is nearly related to O. Carthaginense, but said to differ in the following particulars: "Its petals and upper sepals are very obtuse, and nearly alike in form. The former are not lobed, the side lobes of the lobellum are much smaller, and the tubercles of the crest are

quite different. The gland of this, although very like that of O. Carthaginense, has the membranous aurecles larger."

luridum var. Guttatum. Bot. Reg. 16, 1839. olivaceum. Kunth N. G. sp. 1, 347.

ampliatum. Lindl. in Bot. Miscel. n. s. ined-Parama.

Harrisonianum. Bot. Reg. 1569-Brazil. .globuliferum. Kunth N. G. sp. 1, 347-Andes.

iridifolium. 344—Mexico. Do. papilio, Bot. Reg. t. 910-Trinidad.

tigrinum--Mexico. var. with branching flower stem. onustum. Lindl. in Bot. Miscell. n. s. ined-Panama. panduriferum. Humb. and Kunth. N. G. sp. 1, 346, t. 82. echinatum. Humb. and Kund. N. G. sp. 1, 345, t. 79-Merico. ornithorhynchum. Do. Do. hyalinobulbum - Mexico. serpens. Lindl. in Bot. Miscell. ined. Macranthum Guayana. divaricatum. Bot. Reg. t. 1050-Brazil. Cupreum. pumilum. Bot. Reg. t. 920-Brazil. triquetrum. R. Brown, 2nd ed. Hort. Kew. 5, 216—Jameica. pulchellum. Bot. Mag. 2773—Jamaica. Cebolleti. Swartz. Act. Holm. 1800. p. 240-India. emarginatum Meyer. bicornutum. Bot. Mag. 3109-Brazil. citrinum. Bot Reg. 1758-Trinidad. leucochilum. Bate. Orch. 1-Guatimala. deltoideum. Bot. Reg. 2006-Peru. Lemonianum. Bot. Reg. 1789-Havannah. Cavendishianum. Bateman Orch. 3-Guatimala. Donianum. Guatimala. Lanceanum. Bot. Reg. 1887 - Surinam. lunatum. Bot. Reg. 1929—Demerara. Russellianum. Bot. Reg. 1830-Rio Jaeiro. Tayleurii. Bateman. stramineum. Bateman-V. Cruz. Forbesii. Bot. Mag. 3705-Organ Mountains. intermedium. Floral Cabinate. 60-Cuba. raniferum. Bot. Reg. n. s. 48-Brazil. var. Majus. Bot. Mag. 3712-Brazil. confragosum-Mexico. pulvinatum-Brazil. hians. Lindley-Brazil. sanguineum. Bot. Reg. Miscell. p. 47. 1839.

THYSANOTUS INTRICATUS, Intricate flowered Thysanotus.

unicorne. Bot. Reg. Miscell. p. 55. 1839. .

NAT. ORD. ASPHODELEÆ. CLASS HEXANDRIA MONOGYNIA.

The few species of this genus which have yet reached this country, are natives of New Holland; they are mostly purple, differing only in the shades of colour, and all remarkable for their exquisitely delicate fringe surrounding the petals,

They are most successfully cultivated in cold frames, not being sufficiently hardy to endure the severity of our winters unprotected. In our Metropolitan notices, this species was included in the August number of this Magazine, and in the July number. The proliferus was also described, and a flowering specimen has since been sent us by Mr. Cooper, of Wentworth House.

The proliferus is much darker in the colour than intricatus, nor is the flowers produced so profusely as in the former species. Both are recommended as requiring frame treatment. For the opportunity of giving a figure of this plant, we are indebted to Messrs. Low and Co. of the Clapton Nursery, where it would appear both species are cultivated, and have produced bloom.

We doubt not, but in a warm situation, under a south wall, both these species would grow freely, and might be preserved by slight protection during winter. The soil ought, however, to be very dry.

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NOTICES OF NEW PLANTS.

EPIMEDIUM MUSSCHIANUM, White-flowered Barren Wort. [Bot. Mag.

NAT. ORD. BERBERIDEÆ. CLASS HEXANDRIA MONOGYNIA.

Another of Siebold's plants, introduced from Japan, hitherto cultivated in the greenhouse, but recommended as being hardy; that it is completely so, we should have some doubt. It is, however, a real herbaceous plant, with ternate, heart shaped, serrated leaves, and white or cream coloured flowers. It was sent from Mr. Young, of Epsom, to the Edinburgh Botauic Garden, where it flowered during March last.

BAUHINIA FORFICATA, Forcipated Bauhinia.

Bot. Mag.

NAT. ORD. LEGUMINOSEÆ. CLASS DECANDRIA MONOGYNIA.

The genus Bauhinia has long been cultivated by those who keep up collections of stove plants; and the species are remarkable for their twin or half divided leaves. They are, therefore, interesting, chiefly on account of their foliage rather than their flowers, which, although they are for the most part ornamental, are rarely produced. As in the case before us, the flowers are terminal. On the species in question, the segments of the corolla, which are divided into five, are very long and narrow, and of a whitish green colour. This is a native of Brazil, and has flowered in the Glasgow Botanic Garden.

INGA HARRISII, Mr. Harris's Inga.

Bot. Reg

NAT. ORD. LEGUMINOS ... CLASS POLYGAMIA POLYANDRIA.

A native of Mexico, an interesting and curious climbing shrub, with purple brush or tassel-like flowers, with biternate or tiwee three leaves, springing from the same foot-stalk. In cultivation, it succeeds best in a temperature between stove and greenhouse.

GOMPHOLOBIUM VERSICOLOR, Changeable Gompholobium. | Bot. Reg. NAT. ORD. LEGUMINOSE E. CLASS DECANDRIA MONOGYNIA.

This is a very handsome little greenhouse shrub, from Swan River, having upright slender stems and alternate leaves, divided into three linear segments. The flowers are comparatively large, of a dark orange colour, marked with numerous deep purple streaks. Dr. Lindley says "There are three species of Gompholobium with this habit, very much like each other, and difficult to distinguish, if, indeed, they are distinct. One of them is the Gompholobium tenue, of this Work, fol. 1614, with yellow flowers. It has, in a wild state, the petioles longer than the stipulas, and the peduncles seem to be usually one-flowered. The second is G. sparsum, of Mr. Allen Cunningham, found by that zealous botanist at King George's Sound; it has the dark flowers of G. versicolor, and its short petioles, but its branches are more angular; the leaves are distinctly veiny on the upper side, and those near the bottom of the branches are much shorter and broader than the others. The third is G. versicolor, which differs from G. tenue in its short petioles and subracemose dark flowers; and from G. sparsum in the leaflets, not being at all veiny, and all equal sized."

The preceding remarks will, it is hoped, be found useful, especially at the this time, when the species just noticed, with others from the same country,

are occupying the attention of cultivators.

GOMPHOLOBIUM POLYMORPHUM, Multiform-leaved Gompholobium.

Pax. Mag.

NAT: ORD. LEGUMINOSEÆ. CLASS DECANDRIA MONOGYNIA.

This is a very beautiful and most graceful little plant, having twisted, stender, wire like stems. The leaves are divided into five linear segments, on

short foot stalks, and the flowers are very large, compared with the delicate habit of the plant. The colours are rose and yellow. It has been introduced by Capt. Mangles, R.N. This tender genus is somewhat difficult of cultivation. The compost should have rather more loam in it than that used for the Erica; but in all other respects, the treatment suitable for heaths will be found suitable for this genus, requiring only a little higher temperature during winter.

SENECIO POPULIFOLIUS VAR LACTEUS, Milh-white Poplar-leaved Senecio. [Bot. Reg.

MAT. ORD. ASTERACEÆ OR COMPOSITÆ, CLASS SYNGENESIA POLYGAMIA SUPERFLUA.

This is figured and recommended as a suitable variety for crossing, with the view to obtain new varieties. It has whitish streaked flowers, forming a rather large umbel. The poplar-like leaves, with their white and woolly appearance underneath, prove the appropriatenesss of the specific name.

GESNERIA MARCHII, Mr. March's Gesneria.

Bot. Mag.

NAT. ORD. GESNERIÆ. CLASS DIDYNAMIA GYMNOSPERMIA.

We have several times referred to the ornamental character of this genus; and although the species in question puts forth no high claims to admiration in this respect, yet it may nevertheless be regarded as rather handsome. The flower spike presents several dense whorls of moderate sized orange or red coloured flowers. As Gesneria, and especially Gloxinias, with Sinningia, Besleria, &c, are peculiarly well suited to be grown amongst collections of orchideous plants now so common, we press the claims of these plants again on the attention of our amateur friends, whose accommodation is frequently rather limited. They are amongst the least difficult plants to cultivate of any that we know. The following is a list of all or most of the kinds that have been published, which we subjoin here, with the view of affording greater facility to those who wish to collect and cultivate the species.

Gesneria Douglasii. Of this species, there are several handsome varieties.—Bot. Mag., 3612. Suttoni.—Bot. Reg., 1638.

Cooperi.—Pax Mag., 1636. Lindleyi. Bot. Mag., 3602. Sceptrum. allagophylla.— Bot. Reg.,

1767. Sellowii.—Pax. Mag., vol. 4, p. 27.

faucialis.—Bot. Reg., 1785.

Is nearly allied to Sellowii.

lateritia.—Bot. Reg., 1950. elongata.—Botanist, 27.

Gesneria rupestris.—Pax. Mag., 5

53. magnifica. Cameron. latifotia.

bibractiata. Cameron.

spicata.

corymbosa. hirsuta.

ulmifolia .- Bot. Reg., 1039.

Calycina. humilis.

tubiflora. Agrigata.—Bot Reg., 329.

bulbosa.—Bot. Reg., 343. acaulis.

The species are natives, for the most part, of Brazil, several of Jamaica, and a few of Rio Jameiro.

CLETHRA TOMENTOSA, Downy Clethra.

Bot. Mag.

NAT. ORD. ERICINEÆ. CLASS DECANDRIA MONOGYNIA.

Is an upright branching shrub, bearing ovate serrated leaves, and spikes of whitish flowers from the axils of the leaves, and near the extremity of the shoots. Sir William Hooker remarks, that "Whether or not this be a species really distinct from the Clethra Alnifolia, may admit of a doubt; but it is quite certain that it is the C. tomentosa of American authors, which they seem universally to consider a genuine species. Yet, to me, they appear to differ

in the almost entire absence of down on the C! Alnifolia, whilst the kind before us has the leaves, young branches under side of the leaves poduncies, petals, and calyx, clothed with hoary down." Its season of flowering is towards the end of summer.

POLYGONUM AMPLEXICAULE, Stem-clasping Polygonum. [Bot. Reg. NAT. ORD. POLYGONACE.E. CLASS OCTANDRIA TRIGYNIA.

A herbaceous plant of moderate beauty, having lanceolate heart shaped leaves, and reddish flowers, and blue anthers. It is a native of Nepal, and raised in the Horticultural Gardens from imported seeds.

THUNBERGIA HAWTAYNEANA, Hawtayne's Thunbergia. [Pax. Meg. NAT. ORD. ACANTHACE.E. CLASS DIDYNAMIA ANGIOSPERMIA.

We have at various times noticed this plant, and spoken in terms of approbation of its beauty; nor will anything that we have said, in commendation of its claims, be likely to be called in question, now that there is an opportunity of judging more accurately of its merits. It has flowered at Drayton Green, Middlesex, having been some time cultivated in the collection of Mrs. Lawrence. The flowers are rather large, and are of an intense blue. Judging from the figure before us, they are scarcely, if at all, inferior in colour to Salvia patens. This refers to the disc of the flowers, the tube being long, and of a dull yellow. The habit of the plant is not less remarkable than the flowers. Its thick, smooth, coreacous leaves, together with the compact round atems and full grown buds, give this plant no common appearance. It is indeed a noble and most elegant climber. It is a native of Nepal, and from our own acquaintance with the species, we are by no means disinclined to believe that it may yet be found to grow freely in the greenhouse.

HETEROTROPA ASAROIDES, Asarabacca-like Heterotropa. [Bot Mag.

An interesting and highly curious plant, a native of Japan, with light green heart shaped radicle leaves. It is an herbaceous stemless plant, with equal, rather strong, but undivided roots. The large dark brown flower is produced on the crown of the plant. It has produced its blossom in the greenhouse of the Edinburgh Botanic Garden. The flower continues in perfection for many days. This is a most curious plant.

ONCIDIUM PULVINATUM, the Cushion Oncidium.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ § VANDEÆ. CLASS GYNANDRIA MONANDRIA.

One of the largest of the Oncidia, vying with O. altissimum in stature, its panicle being eight or nine feet long, of which one of the smaller branches only is represented in the accompanying plate, and resembling O. divaricatum, in the structure, colour, and size of its flowers. The colour of the latter is yellow, rose, and purple.

BURLINGTONIA MACULATA. Spotted Burlingtonia. | Bot. Reg.

NAT. ORD. ORCHIDACEÆ § VANDEÆ. CLASS GYNANDRIA MONANDRIA.

This bears short pendulous spikes of flowers, very beautifully mottled with various shades of rose and purple. It has been obtained from Brazil by Messrs. Loddiges, and is very sweet scented, and produces its flowers in May. "It is very distinct from all the species of this genus previously known, and is, I hope, an omen of many more yet to discover. It confirms the generic character originally given, and removes all doubt of the distinctness of Burlingtonia from Rodriguezia."

In cultivation it succeeds best suspended from the rafter of the stove, the roots being tied to a piece of wood, with some turfy peat and moss, and

frequently watered by the syringe.

CATTLEYA CITRINA. Yellow-flowered Cattleya.

Bot. Mag.

NAT. ORD. ORCHIDACEÆ § VANDEÆ. CLASS GYNANDRIA MONANDRIA.

The genus Cattleya abounds both in interest and beauty; and were it

necessary to offer evidence of this statement, we should only require to refer to the representation of the species before us. Although in habit much anlike a Cattleya, yet the dissected portions, as well as the flower itself, bear ample testimony to its relationship. The whole plant appears to be small, indeed the solitary flower seems nearly equal in magnitude to the plant itself. "Plants of this very fine and singular Cattleya were sent by Robert Smith, Esq. of Oaxaca, Mexico, in 1838, to the noble collection at Woburn Abbey, where they blossomed in 1839. The bulbs and foliage are remarkable for their very glaucous or sea green hue, and the fine flower seen in such a manner that the labellum is not brought into view has at first sight very much the appearance, not only in regard to form but to size and colour of the wild tulip of our country, (Tulipa Sylvestris), that we were for a moment deceived by it."

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

DENDROBIUM BICAMERATUM.

A native of India, having upright stems, and flowers rather smaller than those of Maxillaria Stapelioides; colour, dull yellow, spotted and streaked with purple.

GONGORA NIGRITA.

This is the darkest flowered of all the Gongoras, the flowers resembling the deepest puce coloured velvet. The most nearly related to Atropurpures.

SPIRÆA CUNEIFOLIA.

A hardy shrub, raised at the London Horticultural Society's Garden. It forms an erect bush, bearing downy white flowers.

SPIRÆA VACCINIIFOLIA.

From the same country as the last, and equally hardy. This has also white flowers.

SPIRÆE LAXIFLORA.

Received at the same time, and from the same country, with the two preceding. This is nearly related to the last, and also approaches S. fastigiata, of Wallich.

MEDICAGO CLYPEATA.

Quite a new form of Medicago, allied to M. rugosa, imported from the north of India, by the East India Company, and in appearance resembles the species called snails, offered for sale in the seeds shops.

PHAIUS BICOLOR.

This orchideous plant is the finest species of the genus to which it belongs. It has flowered with Messrs. Loddiges, who imported it from Ceylon.

GOODYERA RUBICUNDA.

A plant of but little beauty, judging from the description. It is nearly allied and much resembles the Neottia process; for many years common in

MAXILLARIA LENTIGINOSA.

A native of Brazil, and much like Maxillaria Stapelioides.

VANDA CONJESTA.

A native of Ceylon, imported from thence by Messrs. Loddiges. Unattractive, having small brown coloured flowers.

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The following will be highly interesting, to those especially who are engaged in cultivating and collecting the genus Plaus. Dr. Lindiey says, "Among the collections of seeds found in 1838 in the mountainous districts north of Mexico, by Mr. Hartweg, for the Horticultural Society, are many species of Pinus, among which six are quite new. As the Society is about to distribute the seeds of these plants, it is desirable they should, in the first instance, be described, in order that no confusion may be hereafter introduced among the garden plants. They may, therefore, bear the following names:"

PINUS HARTWEGII.

The cones are about four inches long and two in diameter, and of equal breadth throughout. The branches are stout, and the leaves are in fours and six inches long. It attains the height of from 40 to 50 feet.

PINUS DEVONIANA.

This is the Pino Blauco or P. real of the Mexicans, it is described as attaining the height of from 60 to 80 feet, found on the Ocotillo, between Real da Monte and Regla. The cones are nine or ten inches long. It would appear to be of most luxuriant habit, the young shoots being nearly an inch in diameter, and look very like those of Pinus palustris. "It is worthy of bearing the name of his Grace the Duke of Devonshire, whose arboretum at Chatsworth will, it is to be hoped, be soon augmented by this truly regal plant."

PINUS RUSSELLIANA.

This is also hardy, and is described as differing from the preceding in the character of the cone. It commemorates his Grace the Duke of Bedford.

PINUS MACROPHYLLA.

Also a native of the Ocotillo, differs from the Russelliana in its longes leaves, shorter and stouter cones, the ends of the scales are strongly hook d backwards. The leaves from fourteen to fifteen inches long. The tree is small.

PINUS PSEUDOSTROBUS.

This is described to be nearly allied to P. Devoniana, and to have the habit of P. strobus. The glaucous appearance of the foliage resembles those of the Weymouth pine.

PINUS APULCENSIS.

This attains the height of 50 feet, and is distinguished by its short leaves and very glaucous shoots.

CUPRESSUS THURIFERA.

This grows to the height of from 50 to 60 feet.

JUNIPERUS TETRAGONA.

Growing to the height of four or five feet, found near Real del Monte.

JUNIPERUS FLACIDA.

A handsome plant, from fifteen to twenty feet high, with weeping branches and glaucous fruit, found near Regla.

JUNIPERUS MEXICANA.

An upright shrub or small tree, with long green irregularly oblong fruit.

As no doubt most of these will prove hardy, they are, therefore, very valuable, and those who as Fellows have a claim on the Society would do well to make early application for seeds.

MISCELLANIES.

The Salvia Patens, which has, and is still exciting so much interest throughout the country, is now in fine bloom in this garden. The plant is growing in a pot, about twelve inches in diameter, and forms a dwarf spreading bush, with ten or a dozen branches, of nearly equal strength. It seldoms happens that a new plant is introduced, but more is said of its beauty than it deserves. Salvia Patens is, however, an exception, and much as has been said and written about it, all fall short of doing it justice; such is its remarkably brilliant blue, that no colouring can be found capable of flattering it.

As the present season is one remarkable for the unusual quantity of rain which has fallen during this and the preceding month, and, as its effects must necessarily be pretty similar throughout the country, we may just observe, that an application has been made to us within these few days by Ladywho has an excellent garden, and employs a superior gardener; not confiding in the judgment of the latter, she applied to us to know, why her vines, when scarcely ripe, should damp and fall from the stalks, others shrivelled, and neither ripened nor coloured properly. Our answer to this question was, that whatever other causes might be in operation, the results described, were generally produced by the roots of the vines being planted at too great a depth below the surface of the border, by the improper drainage of the latter, or'it may be to both of these causes; and should our conjecture prove right, no remedy would prove effectual, but that of lifting the vines, renewing the border, and paying proper attention to drainage and soil, especially to the former, and again to plant the vines, and, if placed on the surface, raising small mounds over their roots, so much the better.

Our conjecture proves to be right, the vines are planted two or three feet deep, and the borders are very low, producing in the edgings immediately in front, various equisetums and other plants, common to wet marshy situations. The most prevailing evil, and the most effectually destractive to the successful cultivation of the vine, is deep planting, and when the borders are improperly drained; but more particularly when the situation is naturally wet, they seldom bear much fruit, and what they do produce, is generally so immature and acid, as to be unfit for use. As instances of this kind are from rare, and, as the present wet season will cause these effects to be more felt, we shall take an early opportunity, probably in the next number of this Magasine, of giving a few plain directions on the formation of vine borders, planting, &c.

In a previous number of this Magazine, we made some remarks relative to Mr. Loudon's visit to this garden and neighbourhood. We stated there that Mr. Loudon had travelled much, both at home and abroad, and having spent a long life with his attention directed to gardening, more especially to Landscape Gardening, this being the case, we were not vain enough to suppose, that our efforts in arranging and laying out this garden, would meet any other than a mixture of approval and censure. To profess indifference to the opinions of those whose authority has secured more than an ordinary amount of approval, is a species of affectation which we do not at all wish to possess. We were, therefore, by no means, regardless of what might be his opinion of our humble endeavours in this way. In speaking of this garden generally, he says it is "decidedly in better taste than any garden of the kind that we have yet seen. In short, there is nothing in it we could wish to alter."

GREEN GAGE PLUM.—This is without doubt not only the best dessert plum, but also the most esteemed for the better description of preserves. Its

origin is undoubtedly French, and it is said to have been introduced into England by the noble family of Gage, some time about the beginning of the last century, as we find it described by Langley, in his Pomona, as ripening on an east wall, July 30, old style, and supposed by Bradley, in 1757, to be the same as his Gros Damas Verd, which shows this plum was even then not generally known. Sir Joseph Banks was of opinion that it was received from the Monks of Chartreuse, of Paris, amongst other fruit trees, by the then Lord Gage, and that the label by accident had been lost. The gardener having no other name for it, very naturally after it had produced fruit, named it Green Gage, in compliment to his employer, a name it is now as well known by as that of Reine Claude, (its name on the Continent,) where it is equally esteemed as with us. The name Reine Claude, was given it on account of its being introduced into France by Queen Claude, wife of Francis the First, of that country.

The following are the characters by which we may always ascertain whether a living being, organized, growing, drawing in nutriment, possessing an internal temperature peculiar to itself, and reproducing its kind, be an animal or a plant:—If it be irritable to the touch, and move spontaneously to satisfy its wants,—if it be not deeply rooted in the soil, but only adhere to the surface,—if its body be provided with a central cavity,—if it putrify after death,—if it give out the ammoniacal odour of burnt horn,—and finally, if in the chemical composition there be found an excess of azote over carbon, then we may be certain that it is an animal. But if, on the contrary, the doubtful being under examination enjoy no lasting or spontaneous power of motion,—if it be destitute of an internal cavity,—if it be deeply inserted in the soil—if, when detached, it speedily fade and die,—if, when dead, it merely ferment, but do not putrify,—if it burn without the odour of a burnt quill or horn,—and if its residue be very considerable, and chiefly carbon, then we may venture to declare it to be a plant.

The Dutch mode of treating Hyacinths has been fully detailed in a work by St. Simon, entitled Des Jacintes, published at Amsterdam, in 1768, in 4to., in which every thing that can be said, and a great deal more than need be said about a Hyacinth, will be found. Complying with St Simon's directions as nearly as possible, I produced for several years successively, at my villa, in Surrey, where I had the advantage of the vicinity of the fine sand of Shirley Common, Hyacinth flowers, fully equal, if not superior, to those obtained from the best Dutch bulbs; but since my collection of plants has been removed into this part of Yorkshire, where fine sand can only be obtained by the tedious process of breaking stones, and reducing them to powder with an iron hammer, I have been prevented from cultivating them with equal success.

The compost used at Haarlem, is rotten cow-dung, rotten leaves, and fine sand. In making this compost, the Dutch gardeners prefer the softer leaves of elm, lime, and birch, and reject those of oak, chestnut, walnut, beach, plane, &e., which do not rot se quickly. The cow-dung which they use, is also of a peculiar quality, being collected in the winter, when the cattle are stall-fed upon dry food, without any mixture of straw or other litter. The sand is procured in the neighbourhood of Haarlem, where the soil is a deposit of sea sand, upon a compact layer of hard undecayed timber, the remains of an ancient forest which has been overwhelmed by the sea. The purest sand is procured by digging to some depth. St. Simon imagines that the sand has peculiar virtues, in consequence of an admixture of salt and sulphur, but I believe he is mistaken; for in order to judge of the effects of sulphur, I placed a Hyacinth on a glass full of sea sand, having sprinkled on the surface some fresh sulphur, which I had scraped off Hordle Cliff, in Hampshire, and the bulb refused to vegetate or push any fibres till the sulphur was removed.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XLI.—OCTOBER, 1839.

ORIGINAL COMMUNICATIONS.

SOME REMARKS ON THE CULTURE, PROPAGATION, &c., OF THE GENUS STATICE.

BY T. M.

This genus may be said to contain plants at once magnificent, imperesting, and beautiful. Among the most prominent are S. arborea, speciosa, Puberula foliosa, emarginata, incana, and mucronata.

S. arborea is doubtless, by name at least, well known to the majority of your readers; and the high encomiums which have been passed on it, have given rise to an idea that it is truly a magnificent plant, and in this, I believe, no one will be disappointed who has seen the plant when in bloom. It was introduced to this country by P. B. Webb, Esq., and first cultivated in the Milford Nursery, by the late Mr. Penny, by whom several plants were sold at the high price of twenty-five guineas. By this means it fell into the hands of Mr. Cunningham, nurseryman, Edinburgh, who was so far successful in propagating it, that I have been told, and believe it to be true, that he possessed last autumn a small house entirely filled with this plant, which were, however, nearly all disposed of by the spring. In a soil composed of equal proportions of sandy loam, of a turfy quality, leaf mould, and turfy peat, or heath mould, it will thrive luxuriantly; the soil should not, however, be sifted, but the turfy parts carefully retained, and as it requires a considerable sized pot, great care is necessary to ensure ample drainage, at least one-third the depth of the pot. present species evidently requires a temperature of from forty-five, or fifty, to seventy degrees, as I have known instances of its

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having been destroyed by frost, both when in a greenhouse and also when exposed. The former of these was one of the largest specimens in the country, being one of the first young plants raised by Mr. Penny. It was, however, totally destroyed in a house in which geraniums were left uninjured. The other plant mentioned, was accidentally left out and killed by an unexpected frest in the autumn. S. arborea, requires rather a moist atmosphere, and to be frequently syringed: its large ample foliage affording abundant shelter for insects. In its native habitats, it is found growing on detached portions of rock, surrounded by the ocean, and but a short distance above its surface; this supplies us with an hint that in successfully cultivating it, we ought to make use of saline water, and also to keep the atmosphere in which it grows impregnated with the same. It is said to propagate by outting off the root, and there is little doubt but that this was the plan adopted by Mr. Cunningham.

S. mucronata, is an old but rare inhabitant of our greenhouses; its curious and grotesque growth renders it well deserving a place in collections. It thrives best in a mixture of two parts heath mould, and one of sandy loam, and is readily propagated by taking the young shoots off close to the stem, when about three inches in length, preserving the leaves at their base, and planting them at the edge of the pot, very shallow in sandy turfy soil, and placing it in a hotbed. The other species mentioned above, are plants of dwarf habit, and I know of none which I can more confidently recommend to the lovers of interesting plants. They grow well in the soil recommended for arborea, and propagate by division; they thrive freely in the open air during summer.

Mr. Dickinson, nurseryman, Guildford, is in possession of a very rare and valuable species, from the Cape of Good Hope, which is quite new to the collections of this country, and has not, I believe, produced flowers; but from the idea which may be formed from dried specimens, it is by far the most valuable in cultivation. It is said to be found growing there on projecting rocks, two hundred feet above the sea, and so near the extremity, as to be often crusted over by the saline particles contained in the atmosphere. Of this plant, I hope to be able shortly to obtain further information.

Surrey, July 8, 1839.

T. M.

We shall anxiously look for another and additional paper from our excellent Correspondent, on this interesting genus. With regard to S. arborea, we have no doubt when well grown, and especially when young, and before it has had time to become tall, and consequently naked, we believe it is a plant that will always have an attractive and interesting appearance. That it cannot be so cultivated as to preserve the foliage on the lower parts of the plant, when it becomes several years old, we do not profess to maintain. This is, however, natural to the plant, and although we have seen several plants on which much care had been bestowed, yet we have not seen one free from the defect just mentioned. It is probably owing to the want of some of those essentials in its cultivation mentioned by T. M. Several species of this genus are also found on the sea shore, and may, therefore, require the stimulant of the saline particles to keep them in vigorous health, and more especially the arborea, found as it some times is, in situations so fully exposed to the sea breeze. As a genus, whether of greenhouse or hardy plants, we know of none better deserving attention than this. They are not less remarkable for the brilliant colours of their flowers, than for their durability. Several of them, indeed most of them, continue to bloom for months. Loudon in his Hortus Britannicus, has recorded sixty-five species.—ED.]

ON BUDDING, ETC. BY R...H.

It often happens to those who bud much, that the root of the bud is extracted from the inside of the bark, and sticks to the wood; the germ and rind are then thrown away together as being useless, but such is not the case, as I have for these two last years been in the habit of cutting off the woody or sappy excrescence with the knife, and carefully inserting it into the place it has just occupied, perfectly smooth, with a correct eye, and delicate touch; then thrust it downward not draw it upward into the briar, which is the practice of some, bandage it as usual, and the root will seldom if ever get displaced; and indeed it seems to be as fortunate in growing, as what is termed a good bud, as a few experiments in this now late period of the season will easily testify; for young branches of the Dog Rose, may still be found for that purpose. I have occasionally cut off a small quantity of the wood attached to the germ, and inserted it, but do not think it requisite in roses, though it may be useful to do so in some other plants that are budded. are frequently not ready when the briars are, but if a few flowers are sacrificed by cutting them off before they blossom, the buds will soon ripen on that stalk, and slip with great freedom.

К.....н.

An Amateur Inoculator.

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REMARKS ON CACTL

MAMMILLARIA, -THIRD NOTICE, BY ECHINUS.

We should earnestly recommend such of our readers as may feel inclined to form a collection of Cacti, to commence with the numerous varieties of the division Mammillaria. There are several reasons which, in our opinion, concur to warrant this strong recommendation of the Mammillaria. For of all the melon-shaped Cacti, the Mammillaria is the most easily cultivated, demands the smallest quantity of artificial heat, and produces most freely its blooms; while at the same time, the abundance and variety of its thickly set and brilliantly coloured spines, in conjunction with its elegant shape, render it to the full as interesting and beautiful as any of its rivals.

Many of the Mammillarias have a tendency to form additional heads, until the plant presents the appearance of a number of separate plants, cemented together in a firm, compact bunch. By this process, very handsome and interesting specimens are often formed: though we must confess, in ordinary cases, we prefer to have the Mammillaria in its simple, perfect form, rather than in the monstrous shape which it thus assumes. We have not observed this propensity either in the Melocactus, or in the Echinocactus. The only method of retaining the Mammillaria in its simple form, is to remove, as they appear, the offsets which it continually throws out, and which, if suffered to remain, arrest the growth of the original plant, and speedily becoming its equals in size, present the appearance we have described.

The Mammillaria may be rapidly increased; at any rate those species which freely throw out offsets, are capable of a free increase, for each offset with a very little trouble will form a plant. The offsets should be taken carefully from the mother plants, with the point of a knife, when about the size of a hazel nut; and when separated, should be laid up on a shelf near the glass to dry for a few days; at the end of which period, they may be planted in white sand, and if convenient, placed in a gentle bottom heat, and be very sparingly supplied with water. They will quickly root with such treatment, and will, in process of time, form perfect and beautiful specimens.

Fine varieties of Mammillaria.

Wildii, Subcrocea, Auriceps, Fuscata, quadrispina.
angularis.
bicolor.
perose.

viliferia, pycuacantha, tentaculata, geminispisia, vetula.
gracilis.
rhodanthe.
Zaccarinii.

REMARKS MADE DURING A GARDENING TOUR.

BY THE EDITOR.

Green Head, August 22.—The seat of Joseph Brooks, Esq., is situate within a few minutes' walk of the town of Huddersfield. A few yards within the entrance gate to the right, is seen, through some fine groups of ornamental trees, the spire of a handsome Church. On proceeding a little farther, the house appears on the rising ground to the left, well backed with wood; indeed, the situation of the house, and the arrangement of the trees and shrubs, are such as to make a most favourable impression on the mind. While, however, there is much to admire, there is also much to be done amongst the fine old specimens of trees and shrubs; many require to be entirely cut down, and others to be removed into more appropriate situations. It is, altogether, a place of great capabilities, and is now undergoing extensive alterations, under the direction of the proprietor, Mr. Brooks.

Spring Wood.—On the same road, about half a mile farther from Huddersfield, on the opposite side of the hill, is Spring Wood, the seat of Thomas Starkey, Esq. The mansion is approached by a rapid descent through the park, and is entered by the back or north In going along the carriage road, but little of the house is seen, being screened by planting; this goes far to meet the objection of the approach road descending to the house, especially in this instance, where the house is concealed; but the plantings are so managed as to cut off every object from the view, except the road, and close to the house the carriage entrance is completely surrounded with planting, so that on entering the house on this side, there is a most extensive view obtained from the front window. This is very inimitable, and incomparably better than displaying all the beauties of the place before the visitor enters the house. Mr. Frost is gardener here, and has had the management of the gardens and grounds for many years. While the gardens throughout are in good condition, he appears to have paid particular attention to the culture of orange and lemon trees, capsicums, Virginian tobacco, &c. The orange and lemon trees are grown in a house devoted to their use, the rafters only being occupied with vines, and these form a valuable shade to the foliage of orange trees during the bright summer months.

Although Mr. Frost is most successful in his culture of this tribe of plants, he is by no means particular as to the soil in which they are grown; nor does he observe any difference with regard to the compost for young plants: young and old are submitted to the same treatment, both in respect to the soils and temperature. He represents his compost as consisting of about equal parts of fresh yellow loam, and the soil in which his cucumbers were grown the previous seasons, adding only a little vegetable or leaf mould. His large plants are shifted about once in three years, and often less frequently. He very justly attaches most importance to the watering of orange trees, and says "the great merit in cultivating the orange depends on proper watering," especially just after the plants have been shifted; and strongly recommends forming a small bason of the mould round the stem of the plants, so as to prevent the water passing the part of the ball of earth containing the roots, and escaping through the new soil round the edges of the pots. Such is Mr. Frost's mode of cultivating the orange, which we should have much preferred giving in his own words, this, however, he declined, excusing himself by saying he was not in the way of it, and seldom had occasion to write more than once a year in making out his seed list.

Mr. Frost grows capsicums extensively, from which he prepares what he terms cayenne pepper, mixing various kinds of capsicums, which he dries on the stone flues, on clean paper; they are then pounded in a mortar, seeds, skins, and all, and put through a fine hair sieve. He says his pepper, prepared in this way, is superior to any thing that can be purchased in the shops; and the family will use no other kind, so long as it lasts. In the preparation of this article, he says it is of much importance that the pods or capsicums be completely dry, and also the bottles in which it is put by, otherwise it will become mouldy, and, of course, useless.

It may readily be supposed that cayenne pepper, prepared in this way, is much more wholesome and more pure than that obtained

from the shops; indeed the latter is very frequently adulterated by most pernicious drugs. The cayenne pepper, when prepared as an article of commerce, and such is all that is sold in the shops, is done so in the following manner:—The ripe pods of the capsicum, chiefly the kind known as C. frutescens, having an oval red berry, are dried in an oven, after bread is baked, in an earthen or stone pot, with flour between the strata of peds. When quite dry, they are cleaned from the flour, and beaten or ground to fine powder. To every ounce of this, a pound of wheat flour is added, and is made into small cakes with leaven. These are baked and cut into small pieces, then baked again, that they may be as hard and dry as biscuit, and then are beaten into powder and sifted. It is then fit for use as a pepper, or for being packed up in a compressed state, so as to exclude air, for exportation.

In a sheltered part of the kitchen garden, Mr. Frost also pointed out to us a quantity of Virginian tobacco: this he also grows to great perfection. The leaves were the finest we ever saw: they are raised from seed early in spring, grown for some time in pots, and kept in frames, in a gentle heat, and plated out in an open border early in May. The plants stood sufficiently apart from each other, so that the leaves scarcely touched at their extremities. Mr. F. informed us, that at one time he gathered the leaves individually, as they appeared to attain maturity; but had found, from experience, that this was not necessary, and had for many years adopted the practice of gathering most after the first few frosty nights. Tobacco must never be gathered, except when quite dry. The first process after gathering is to lay it in a heap to yellow; it is then partially dried, allowing sufficient moisture to remain in it: it is then tied up in large bundles, and surrounded by a sheet, or some similar covering, and placed on the top of a hot flue, or over a fire-place (laying over it a heavy weight) of some hot-house, until it is well warmed through. This is in order to sweat it, as it is termed. It is then opened out and properly dried, by laying it under the glass in some of the hot-houses, or by suspending it in an open shade.

Leeds.—Here we called at Mr. Murry's seed shop. His son, who attends to this department, was engaged in arranging a quantity of packets of Rhubarb seeds. We were informed, that this

was a new and superior kind; but we did not ascertain in what its superiority consisted. It was neatly done up in coloured paper, which was also printed and sealed ready for distribution.

Rider's Nursery.—We next visited Mr. Rider's home nursery. In the greenhouses, we found a good stock of Camellias and Camellia stocks. Mr. R.'s general nursery and principal stock being several miles from town, we were unable to visit it; this we much regret, having been frequently informed that his collection and stock of Epacris, Erica, and hard-wooded greenhouse plants generally, is quiet unequalled by anything of the kind in Yorkshire.

Botanic Garden .- Our next visit was to view the progress made in the formation of this garden, being now about two years since the operations were first commenced. But before we offer my remarks on what we observed here, we wish it to be distinctly understood, that we wish not to arrogate to ourselves all that is correct in judgment and taste in matters of this kind. In the first place, then, we may state, that the garden is situated in what may be termed a valley, with a south-east aspect, two and a half or three miles to the north-west of Leeds. It is admirably placed, so far as the garden itself is concerned, being rather low, and, therefore, sheltered and warm. The fact, however, of its being placed in a low situation, although favourable for the growth of plants, (and by some it may be thought that this is the first consideration in choosing a site for a garden) it is, indeed, a most desirable object to attain, but experience proves it to be a very secondary question; and the first, and by far the most important, that ought to be decided and clearly understood, in establishing an institution like that of a public garden, depending on the opinion of the public for its support, ought to be by what means the necessary funds are to be obtained for its future maintenance. Keeping this question in view, we should say, the Leeds garden is much too far from the principal part of the town. We have no doubt the garden is on the right side of Leeds, for securing the support and patronage of the fashionable and wealthy inhabitants; but the distance is such as will effectually preclude any great number of them from visiting it, who cannot afford to ride. The road leading to the garden is over Woodhouse Moor, an extensive common, on an elevated situation, commanding extensive and varied views of the surrounding country; therefore, as three-fourths of those who usually visit public Botanic Gardens, are induced to do so by motives other than those of seeing and admiring the plants and natural objects which they contain. On this account, Woodhouse Moor will operate against the popularity and usefulness of the garden. Had the site for the garden been selected in the vicinity, or on part of this moor, possessing as it does, a clear and wholesome air, the garden might have been expected to become a popular and valuable resort for the people of Leeds. But we doubt if this can ever be the case where it now is.

The garden itself, as has already been described, is in a comparatively low situation. It contains, we believe, about 20 acres, and is surrounded by a most substantial wall twelve or fourteen feet in height. Part of this is faced with brick, and intended for the culture of fruit trees, such as peaches, nectarines, apricots, and the like, and is of greater height than we have stated. Excepting the part just described, it is what is termed "a hammer-dressed stone wall." With regard to this part of the arrangement, which, however excellent in itself, and desirable it may be to make property of this kind secure, it is a miserable misapplication of the funds, to expend, as we were informed, £2,000 on the boundary walls. The main entrance is on the north side, the building of which is not yet commenced. The wall, however, on each side is complete, and compared with the lofty boundary walls, it maintains its full proportion. That such a mass of masonry can be considered to comport with the character of the garden within, or indeed with any garden, whatever its style, or however complete and magnificent its internal arrangements, is exceedingly questionable. If, in matters of this kind, it be in good taste to raise the expectations very high at first, then the entrance here is all that can be wished; but, if on the contrary, it be a principle universally admitted, (and we suppose this will not be denied) that to afford the greatest amount of enjoyment to the mind, it should when taking a general survey be first directed to those objects which are of the least interest, so that each succeeding scene may present a new and stronger claim on the attention of the visitor. That this principle has been kept in view, with reference to the instance in question, is by no means obvious. The intended entrance is through the centre of a greenhouse, which is connected with a range of conservatories, placed at right angles with the entrance, having a south aspect fronting towards the garden. At an acute angle, and at a distance from the first, another range is intended, the aspect of which is south-west. From the centre of the range first described, and which may be termed the grand range, a straight walk, in elve feet wide, proceeds from the centre. This is very short, and has no object or definite point at which to terminate. The terrace walk along the front of the grand range is only 18 feet.

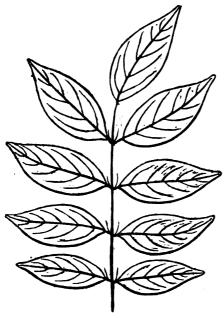
The walks throughout the garden, are for the most part formed, and the grass lawns sown and are now green. There are two roundish ponds, which are finished, each has an island in the centre. Considerable facilities existed for making these ponds interesting. upper one might have been extended to the west, so as to have some part of its outline obscured, but this has not only been omitted, but two rustic bridges are constructed, and the visitors are at once conducted from ground much lower than the level of the water in the pond, up an abrupt bank to the bridge by which the island is reached; here the visitor may look round and survey the whole outline of the pond, without even a single bay to conceal its boundary. In passing from the island to the eastern side, a piece of masonry appears, which as an isolated object, and seen in connection with the rustic bridges, has a curious effect, and is quite difficult to understand what purpose it is designed to answer. The walks, dug beds, and grass plots, appeared to us, intricate, small, and wanting in dignity, if we may so speak. It will perhaps convey the most correct idea that can be given, of the general arrangement of this garden, to say it is pretty; it will at least be so when the trees have had two or three years' growth. There is a collection of trees and shrubs, but the principle on which they are planted, we could not quite comprehend. The plantation formed round the boundary wall, intended to produce shelter to the garden, is entirely planted with common forest trees. This is certainly a defect, and instead of forming the boundary plantations with the tall growing kinds belonging to the collection, such as birch, oaks, popalar, limes, acer, planetree, &c. The elms which are amongst the tallest growing trees in the garden, are planted within thirty vards of the front of the grand range of greenhouses. The proprietors of this garden do not merely profess to confine their attention to botany and horticulture, but they intend that it shall also include zoology. This department they have not hitherto

proceeded with, nor is it probable that they will do so; it is at least very improbable that they will ever succeed. One or two firstrate establishments of this kind, are all that the country will, at present, support; and inferior collections are certain to fail. Two years hence, and the great towns of Liverpool, Manchester, Leeds, York, Sheffield, Nottingham, and Birmingham, may be visited in the course of little more than a day's journey. If this be the case, there is little prospect of success for a zoological establishment at There is already one at Liverpool, and another at Manchester; but the encouragement which they have met with, is by no means flattering to the prospects of similar institutions. For the culture of trees, shrubs, and flowers, and for the recreation and instruction of those whose time and means afford them an opportunity of visiting it, the Leeds garden is calculated to be very useful: the formation of the ground being nearly complete, very little additional outlay is now required; and the building of hothouses need not be regarded as of material consequence, and the annual cost of keeping the ground, would be but a small matter for such a town as Leeds.

York.—Backhouse's Nursery.—The site of what was formerly the home ground, occupied with greenhouses, pits, stool, ground, &c., is now the terminus to the North Midland Railway, Mr. Backhouse having removed the whole of his establishment, to what was formerly Mr. Rigg's nursery, on the Selby road, a short distance from York. Here we noticed several new and interesting plants raised from Australian seeds, sent home by Mr. Jas. Backhouse, whose philanthropy has led him to visit many of the sable race in Australia, and we believe he is now in Africa. But the most interesting plant we saw here, is what we have since learned to be a near relative of the well known ornament of our gardens, the Clianthus. The plant in question has been named Streblorhiza species, by Dr. Lindley, who possesses dried specimens. It is said to be hardy, and one of the rarest plants in cultivation.

Amongst other interesting new plants, we observed two or three species of Lobelia, which we shall shortly figure. Also a Portulaca, an annual plant, with rose coloured flowers, attaining the height of three or four inches only; a species of jasminum, with terminate leaves on short foot stalks; and a small plant having the appearance of Corræa. A plant was sold from this establishment

last year, to a London nurseryman, who purchased it believing at the time it would prove a Corræa, but it has since proved to be a plant of no interest. Besides a Glycena, which we shall presently notice, the next plant which we observed was what appeared to us to be a species of Platylobium, with opposite thick hard round smooth leaves, without foot stalks.



The most valuable plant however, as we should suppose, was the Glycena, which has just been mentioned; a leaf of which is represented by the annexed engraving. It resembles very closely both in habit and in the general aspect of the plant, the Glycena Sinensis. This will no doubt prove an interesting and valuable plant. There were also in one of the greenhouses a very considerable

stock of fine and well grown plants of Fuchsia fulgens. The situation selected for this establishment possesses capabilities of being made one of the best provincial nurseries in the kingdom.

Museum Grounds, York.—August 29th, was the day on which their grand exhibition for the display of fruits, plants, vegetables, and dahlias, was held. The grounds were in excellent order, the day was fine, and the large tent on the lawn, was well filled with plants and dahlias. There was a goodly number of the latter, and considering the unfavourable weather, the flowers were good. As is frequently the case where Mr. Widnall exhibits his flowers for competition; here, he was also successful, and his flowers were also superior to any that were exhibited. The best greenhouse plant that was shown, was a plant of Lilium lancifolium album, by Mr. Barratt, nurseryman, Wakefield; and the next plant of interest

was one of the Lobelias, already noticed, shown from Messrs. Back-house's nursery. The attendance of visitors to this exhibition was very great, and nearly three hundred pounds were taken for admission on the occasion. Amongst the persons of distinction who attended, were the Archbishop of York and the Bishop of Ripon.

Wakefield.—Mr. Barratt's Nursery.—This is an improving nursery, and considerable additions have been recently made to the greenhouse department; in one of which, was the finest specimen of Fuchsia fulgens we know of any where. It has a clear and straight stem, four or five feet in length, supporting a fine round bushy head. We also noticed several new plants, but having made no memoranda at the time, this prevents us now from noticing them particularly.

Bretton Hall, the seat of T. W. Beaumont, Esq., M.P .- On our way from Wakefield, we called at this place. We gave some account of Bretton Hall, in a previous Vol. of this Magazine. It is, however, deserving of remark, that since the time when that account was given, Mr. Beaumont has expended many thousands of pounds in improving the house, the park, approach roads, &c., &c. Great and important changes have, therefore, been effected in the general aspect of the place. A piece of high ground in the park eight or nine feet we believe in depth, and of great width, has been cut away to obtain the view of distant objects. On the north side of the house, the site of the stable yard, the latter has been entirely removed, and the ground cut away ten or twelve feet in depth. A terrace wall has been built on the south front of the mansion. The outline of the lake, has been altered; together with many other improvements of minor importance. space will not admit us saying more on this head, than that we think the place greatly improved.

In the conservatory and orange-house, are many fine specimens of valuable plants, and amongst those in the conservatory, are some of the finest Camellias in the country. The following are some of the largest:—The old White, sixteen or seventeen feet in height, and nearly of equal breadth. This is not a drawn, tall, and naked plant, but is quite a bush full of foliage to the ground: there are five or six others of nearly equal magnitude. Mr. Reid, who has the care of the gardens, adopts the practice of pruning the branches, and says he finds them much improved

by it. In the same house, we noticed Bossia linnophylla, nine feet high, and bushy. Cactus speciocisima, this we have previously noticed. It is now twelve or fourteen feet high, and nearly as much in diamater; it is planted in the open border of the conservatory; the stems are supported by stakes, and it appears likely to grow twice the size if permitted to do so. This we have no doubt is the finest plant of the kind in England. Banksia verticillata, six feet high, and quite a bush. Phyllica buxifolia, five feet high, and as much across. Banksia longifolia, six feet, quite bushy, some of the leaves being upwards of eighteen inches long; this is a splendidold plant. Cycus revoluta has been kept in this greenhouse conservatory five years, but has made no leaves; there are also many fine plants of Rhododendron arborea. Banksia nevia, four feet, with trailing branches four feet in length, a most beautiful plant, we have seen nothing like this before. Banksia grandis, twelve feet high, and branched, in the leading shoot; we measured one year's growth upwards of eighteen inches in length. Polygalla stipulacea, twelve feet high, and bushy. Pimelea decussata, five feet. Erica sisseliflora, five feet. Banksia blicknasolia, five feet, quite a bush; such was the vigour of this plant, that the last year's shoots were produced in the form of monstrosities, nearly a foot in breadth. Acacia spectablis, sixteen feet high. Fuchsia gracillis, twenty feet high, the stem eight inches round at the base.

Louth.—September 17th, the last flower show to be held here during the present season, we attended as one of the judges. Amongst the many things that might be noticed, we were particularly struck with the Coxcombs, exhibited by the Rev. H. Benson, and R. Denson, Esq. They were exhibited in collections, and were the finest we ever remember to have seen, The Rev. E. Elmhirst, was the successful dahlia exhibitor. Forsyth and Ward, nurserymen, Anlaby, exhibited two stands of good blooms, but not for competition.

Market Rasen.—On our return from Louth, our attention was attracted from the road, by the appearance of a large weeping elm. We obtained admission to the garden where it was growing, and was informed the proprietor's name was Mr. Croker, who gave us permission to measure the tree. The stem or ball is five and a half or six feet high, and measured at the base fifty inches in sircumference; it is about thirty feet high, and measured from the

extremity of the branches, fifty feet, and had been planted about twenty years.

Bradwell's New Hotwater Boiler.—This Gentleman is an extensive iron founder in York, and is the inventor of a boiler, of the principle of which the following engravings will convey an idea. They have been found to answer exceedingly well, and Mr. Bradwell has sent them to various parts of the country. It is in use at Aske Hall, near Richmond, Yorkshire; Messrs. Backhouses, nurserymen, York; an Orchideous house in the garden connected with the Museum, York; and at Alex Spires, Eldersley, in Scotland. We think the principle an excellent one, and as will be seen by the engraving, nothing can be more simple in the construction and arrangement.

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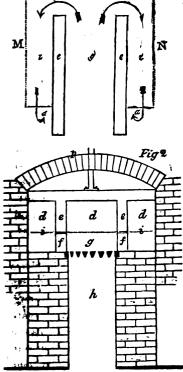
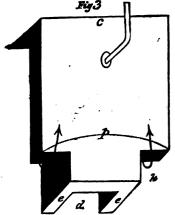


Fig. 1, is a horizontal section, showing the arrangement of the flue, and the course in which the fire and smoke is directed. The fire passes to the head of the boiler, as shown by Fig. 3, at d. It then divides right and left, as shown by the arrows in Fig. 1., and ascends as represented in the Fig. 3, k. and passes over the surface of the boiler, and under the brick arch p. Fig. 2. So that by this arrangement, the fire is first made at d, and q, it then passes under the centre, divides, and returns up each side and over the upper surface, where it again enters the flue at c. The water is not more than three inches deep in any part. two sides e. e. divide the fireplace q. from the returning side flues i. i. and are placed on a single fire brick, f. f.in order to give sufficient height to the fire-



place g. The ash place under the grate, is denoted by the letter h. The dimensions of such a boiler as this, may of course vary. The one here represented, is fourteen inches wide between the sides e. e. The width of the flues i. i. is nine inches and twelve inches deep. The length of the boiler is four feet, and the width three feet.

Water is an element possessing properties so varied, and altogether so accommodating,

that numerous as are the modes of applying it for the purposes of conveying heat, we have no doubt, in our own mind, that great and important improvements have yet to be effected in heating by hot water.

NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Hibiscus Cameronii.—Certainly one of the most showy of this extensive genus, and possessing the various qualities essential to a good conservatory plant; being of free habit, elegant foliage, and a most abundant bloomer. The flowers are of a pinkish flesh colour, with a large rich crimson eye. This desirable species has been very properly named Cameronii, in compliment to Mr. Cameron, of the Birmingham Botanic Gardens, whose botanical knowledge and ardent zeal are equalled only by his well-known liberality, and the general urbanity of his character. We have no doubt that H. Cameronii will speedily become a favourite plant.

Pentstemon gentianoides, var. Coccineus.—Of the recently introduced perennial herbaceous plants, few have been more generally or more deservedly admired than P. gentianoides; and it has been the good fortune of Messrs. Low and Co. of the Clapton Nursery, to raise from some imported seeds, received; from Mexico last summer, a very superior variety of this truly valuable species. The

flowers of the new variety are of the same size and shape as those of the old gentianoides; but, instead of the dullish purple of the latter, they present a fine scarlet. In foliage, habit, and freedom of growth and bloom, it precisely resembles the old variety. In colour it is very little inferior to P. Murrayanum, and while it equals that noble species in the size of its flowers, it far exceeds it in value to the cultivator, by reason of the perfect ease with which it may be increased and managed.

Verbena, spec. nova.—In the establishment mentioned above, we noticed a new species of Verbena, which had been raised during the summer from imported seeds. It is of strong robust erect habit, and its broad and slightly serrated foliage marks it as perfectly distinct from any of the known species cultivated in this country. It has not yet flowered, but, if we are not deceived, will prove a valuable acquisition, as it carries all the appearances of a good plant.

Conanthera bifolia.—A small South American bulb, which is now producing its beautiful blue flowers in the collection of the Messrs. Loddiges.

Lilium lancifolium rubrum, or Speciosum.—A noble specimen of this truly elegant plant is now in full bloom in the very rich collection of the Messrs. Loddiges, and of which it is at present one of the principal ornaments. The rich crimson colour, curious markings, and singular form of the flower, are calculated to rivet the attention and excite the admiration of every beholder. The white variety "L. lancifolium album," and the pale coloured one "L. lancifolium punctatum" have also been finely in bloom in several collections; and it is to be hoped these truly ornamental plants will soon become more plentiful and find their way into numerous collections.

Orchidacea.—We noticed in the above named collection a new Oncidium, in foliage and habit closely resembling O. luridum, but producing lively coloured flowers somewhat similar to those of O. Henchmanni. Also Catasetum citrinum, a species distinguished from all the other members of that extensive family, by its lively and very showy citron coloured flowers. It is a native of Mexico. Among other older species we noticed in bloom Huntleya violacea, Angræcum gladiifolium, Epidendrum fucatum, and Dendrobium

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Chrysanthum, which last is one of the greatest beauties we ever beheld.

At the Clapton Nursery we noticed Chysis aurea, a very rare Orchidaceous plant, and extremely difficult to manage. Its golden coloured petals, and pure white lip, delicately streaked with violet, render it very interesting. This is the third time it has produced its blooms in this collection during the present season.

REFERENCE TO PLATE XLIII.

CYCAS REVOLUTA, Narrow-leaved Cycas, or Sago Palm.

NAT. ORD. CYCADE &. CLASS DIGCIA POLYANDRIA.

All plants which supply food for man, or in any way administer to his wants, never fail to acquire an amount of popularity commensurate with their known properties. As an instance of this, the sago palm furnishes an example; for few persons having any acquaintance with the plants of tropical countries, but know something of the one in question. We are not at present aware that the male plant of this species has produced its flowers any where but at the late Miss Neilson's, of York. The plant now figured we previously noticed in this Magazine as having been presented by Earl Derby to the late Mrs. Beaumont, of Bretton Hall: it was afterwards sent to York, where it flowered for the first time; from York it has been obtained for the Sheffield garden, where it has been for the last two years, and has produced a flower spike during the past summer. It has been kept in the stove, and the flower spike first appeared in the early part of June, and continued to grow for a month or five weeks. The pollen then began to ripen, and fall off from the lower scales: this process continued to proceed upwards, and reached the extremity of the spike in about three weeks or a month, when the scales, or floral leaves, with the whole spike, began to shrivel and become much smaller. The spike has since been cut off and dried, and although smaller, it has retained its form, colour, and smell: the latter property is very striking, giving out a powerful, sweet, sub-acid odour, which it retains, in a limited degree, even in its dried state.

We have given a full sized figure of one of the scales, or floral fronds, also a magnified engraving of the capsules which contain the male pollen. These capsules are closely arranged on the back of the frond, and appear to adhere by their corners. They were filled with pollen dust, and when ripe, the slightest touch causes it to fall out.

The sago palm is a native of China, and the genus which seems intermediate between palms and ferns produces the nutritive granulated powder, called sago, from sagu, the name of the bread made from the pith of the plant in Tonquin: it is cultivated in China and Japan. The plant is valued for the pith of its trunk, which resembles that of the elder. The tree is cut down, and the pith removed and beaten with a pestle in a great trough, or mortar: it is then strained, and the sediment, without farther preparation, constitutes sago. The native Indians live wholly upon it for three or four months in the year; that which is transported is dried and granulated. The process of granulating is performed something in the following manner: the pith having been pounded to a powder, and the water poured off, it is placed over a slow fire, in an earthen or iron pot; in this situation it is frequently stirred, in the course of which the granules are formed.



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NOTICES OF NEW PLANTS.

EPIMEDIUM VIOLACEUM, Purple Barren Wort.

Bot. Mag.

NAT. ORD. BERBERIDEÆ. CLÄSS HEXANDRIA MONOGYNIA.

Of this plant Sir William Hooker says, "certainly the handsomest species of the genus, was imported into Europe by M. Von Siebold, and blossomed very freely in the open border, under a hand glass, in Mr. Cunningham's nursery, Culmley Bank, in the beginning of April last, and continued long in flower."-The leaves are trifoliate and heart shaped, very hairy, and tinged with red.

PLATYSTEMON LEIOCARPUM, Smooth-fruited Platystemon. NAT. ORD. PAPAVERACE ... CLASS POLYANDRIA POLYGINIA.

This is a Californian annual. The leaves are thin and arranged in whirls, which, with the slender stem, is very hairy. The flowers are small, poppylike, and of a yellowish white. This plant has been previously noticed.

OXALIS BARRELIERI, Barrelier's Shrubby Wood Sorrel. Bot. Mag. NAT. ORD. OXALIDEE. CLASS DECANDRIA PENTAGYNIA.

A stove shrub, with cassia-like three foliate leaves, and yellow flowers. This wood sorrel is a native of Mexico. It is curious, but by no means ornamental.

BAUHINIA CORYMBOSA, Corymbe flowered Bauhinia. Bot. Reg.

NAT. ORD. PABACER. CLASS TRIANDRIA MONOGYNIA.

This plant has been cultivated in gardens many years; but has resisted all attempts to flower it until September, 1838, when it produced its rosy pink clusters of blossoms: it is a native of China. The genus bauhinia may be considered ornamental, but are mostly difficult to flower. Bauhinia racemosa is one of the finest of the genus, so far as the foliage is concerned; but the flowers are by no means showy, being white and rather small.

The sexual organs of the flowers of this plant afford Dr. Lindley, who has no favour for the artificial arrangement of Linnæus, an excellent opportunity of pointing out its defects. He says, " the lover of the Linnman classification of plants, and admirer of its precision, will, I am sure, be delighted to see how well this genus bauhinia accords with its divisions. Upon referring to the station assigned to it above, it will be seen that it suits equally well no fewer than eight of the Linnman classes or orders."

CHOROZEMA VARIUM, Various-leaved Chorazema.

Bot. Reg.

NAT. ORD. LEGUMINOSEE. CLASS DECANDRIA MONOGYNIA.

Amongst the new plants recently raised and brought into notice, nothing is at all comparable with this, in the beauty of its habit, showers, and foliage. The habit of the plant is upright, but the stems are slender, and gracefully bent. The foliage is of a light green, and the flowers being of orange and purple, present an admirable and agreeable contrast to each other. It is needless to say, this plant has excited much interest throughout the country, and still maintains its popularity and price. Dr. Lindley says, "of the beautiful flora of the Swan River colony, I purpose so soon to give an account in the forthcoming Appendix and Index to the work, that it is unnecessary to say more on this occasion, than that this plant is one of its prettiest."

It was introduced, in the year 1837, by Mr. Smart, who gave seeds of it, marked "native pea," to the Horticultural Society, in whose garden it was speedily raised, producing two or three varieties, one of which were, the leaves almost entirely free from any spiny toothings, but not different in any other respect. In its own country it must be a very rare plant, for I do not find it in any of the collections of dried specimens which I have examined, excepting In that sent home by Mr. Drummond in the course of the present season, and even then it only occurs in fragments, with the ripe pods adhering to them.

With respect to its cultivation, Mr. Fortune, who raised it in the Horticultural Society's gardens, and whose subsequent management of it was very

successful, has given me the following note:—

"In the autumn of 1837, the seed of this beautiful plant was sown in light soil, and placed in a frame nearly exhausted. It soon vegetated, and was potted in fresh light soil, composed of two-thirds of peat and one-third loam and and. It was soon after placed in a cool pit, and regularly shifted into larger pots, as it required it: under this treatment it grew freely, and was covered with its beautiful flowers for several months, in the early part of the present year. The only particular thing in its cultivation is, that it must always have plenty of air, and not too much water, otherwise it is very spt to damp off at its neck soon after flowering. It is easily propagated by cuttings,

It is the case with plants, as it is with individuals of the human race; some have to contend with innumerable difficulties, and can scarcely obtain the alightest regard or attention, whatever their merit: others, undeserving and frequently worthless, are brought into notice, and maintain a reputation, which, although artificial, yet proves lasting. The plant in question is, however, deserving of all the high encominms that have yet been bestowed upon it, and has, moreover, the advantage of making its first appearance under the auspices of the London Horticultural Society. The cherosema varium is what may be regarded as a standard green-house plant.

We noticed varieties of this species in the collection at Mezzra. Backhouse's, York, obtained from imported seeds.

ZICHYA TRICOLOR, Three-coloured Zichya.

| Bot. Reg.

NAT. ORD. FABACEÆ. CLASS DIADELPHIA DECANDRIA.

Dr. Lindley justly observes that "the genus zichya has been formed by Baron Hugel at the expence of the older genus, Kennedya, by separating from it the species figured in this work under the name of Kennedya inophylia (folio 1431), dilitata (folio 1526), and glabrata (folio 1838), together with the K. coccinia of Ventenat; and by adding to it a pretty new species from Swan River, which he has named Z. Meliy. The genus thus constituted forms a very natural group, which, from its graceful, twining habit, is particularly well suited to ornament green-houses.

The plant under notice has flowered with Mr. Young, nurseryman, of Mil-

ford, near Godalming.

in the usual way."

There is also another species noticed here, which Dr. Lindley says is a native of Swan River, and has been named Z. angustifolia. It is in the possession of Captain Mangles.

TAURRETTIA LAPPACEA, Bur fruited Taurrettia. [Bot. Meg.

NAT. ORD. BIGNONIACER. CLASS DIDYNAMIA ANGIOSPERMIA.

Those of our readers who can recal to their recollection the ornamental and rapid growing climber, Ecremocarpus scaber, will readily understand our description, when we say it very much resembles that plant: it is a native of Peru. The plant is a climber, with divided leaves, and small purple and orange flowers. It has been brought into notice at the Glasgow Botanic Garden: where in the green-house, it flowered during last autumn. It is of annual duration.

CORYANTHES MACULATA VAR. PARKERI, Spotted lipped Coryanthes,
Mr. Parker's var. [Bot. Mag.

NAT. ORD. ORCHIDEM. CLASS GYNANDRIA MONANDRIA.

This is a handsome variety of C. maculata, imported from Demerara by C. S. Parker, Esq. The flowers are large, and are of a dull yellow and purple colour. The bulbs are rather long and deeply furrowed, bearing two long leaves.

ONCIDIUM CONCOLOR, One coloured Oncidium.

Bot. May.

NAT. ORD. ORCHIDEM. CLASS GYNANDRIA MONANDRIA.

A very pretty species, with bright yellow flowers, supported on a slender upright stem. The bulbs and leaves are small. It is a native of the Organ Mountains of Brazil, where it was found by Mr. Gardener in 1837. It has flowered in the collection at Woburn. Sir W. Hooker expresses some doubt as to its generic characters.

ODONTOGLOSSUM ROSSII, Ross's Odontoglossum.

Bot. Reg.

NAT. ORD. ORCHIDEÆ § VANDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a very beautiful plant. The bulbs are small, together with the leaves. The flowers are produced on short stalks, two upon one stalk only. The lip is a clear white, and the other parts of the flower being spotted with purple on a green ground, has a very striking effect. It is in the collection of Mr. Barker, who imported it from Mexico, sent from thence by Mr. Ross, who is employed there as a collector by Mr. Barker.

Dr. Lindley says, many of the species of this genus are handsomer than this, and few less beautiful; let us, therefore, hope that Mr. Hartweg will succeed in procuring them for the Horticultural Society, now that he is engaged exploring the rich neighbourhood of Oaxaca, the head quarters of Mexican Orchideæ. Odontoglossnm; nebulossum has flowers nine inches in circumference, those of O. cervantesii are much like O. Rossii, but larger and richer coloured, and both these are from the south west of Mexico.

GONGORA FULVA, Tawny-flowered Gongora.

Bot. Reg.

NAT. ORD. ORCHIDEÆ (VANDEÆ. CLASS GYNANDRIA MONANDRIA.

This is a brown flowered variety of G. maculata, and has originated with Mr. Barker. It is highly fragrant, scenting the whole house. "The scent approaches nearer that of the violet than any thing I know."

FUNKIA SIEBOLDI, Siebold's Funkia.

Bot. Reg.

This much resembles and is nearly related to Hemerocallis corules, new Funkia ovata.

The plant under consideration has large oval pointed leaves, bearing a spike of blue flowers. It is herbaceous, and is a native of Japan, introduced from thence by Dr. V. Siebold. It is recommended as a hardy perennial, growing about a foot high. It prefers plenty of moisture during the growing season, and a dry situation in winter. It is now becoming common in choice gardens.

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

ANGRÆCUM, ARMENIACUM.

Native of Sierra Leone, cultivated by Messrs. Loddige. The flowers are said to be apricot coloured. "The habit is that of Saccolabium, but very distinct from all that has before been seen, but has some affinity with Angracoum mystacinum." The spur is twice as long as the calyx, and compressed at the base.

MALACHENIA CLAVATA.

This singular plant was given to Mr. Bateman, by Mr. William Hooper, of Lambeth, who received it from Rio, in 1836. It is a remarkable genus, resembling Megaclinium in some respects, but belonging in reality to Vandeze.

The scape or flower stalk, is about nine inches long. The flowers are fleshy dull green, slightly spotted with purple.

SENECIO ODORATUS.

"Why this is called sweet scented is unintelligible, for it has no smell." It is a glancus herbaceous plant, with yellow flowers. It is a native of New Holland, and has flowered in the Horticultural gardens.

EURYBIA GLUTINOSA.

A conservatory plant of little beauty; a native of Van Dieman's Land, and now grown in the London Horticultural Society's garden.

MISCELLANIES.

ON CLIMATE AS AFFECTING PLANTS,—Valleys to be perfectly adapted for growing exotic plants must not be circumscribed, especially if traversed by a river or stream. No spot can be less fitted for conducting the more refined parts of floriculture than a narrow valley through which a river flows, as the constant exhalations from water are calculated not only to saturate the leaves and branches of plants, but, by remaining in the lower stratum of the atmosphere during a frosty night, in many instances, occasion all the consequent destruction. All who have had an opportunity of observing the injury sustained by plants in dales, from a slight hoar frost, must have noticed, that in those districts which were above the low-lying vapours, similar plants have wholly escaped its effects. This simple circumstance casts much valuable light on the subject of this article.

Wherever water exists, it has a constant tendency to lower the temperature; and the vicinities of places wherein it abounds must suffer the greatest reduction of heat. The sea may, however, be considered an experient to this, since its immense and continuous expanse of water retains, through winter, a higher temperature than the superincumbent and surrounding sir. Plants growing within a few miles of the sea coast, (at least of that portion of it which is not swept by the icy blasts from colder regions, may, therefore, be presumed to enjoy an increased degree of heat at that season, on account of the incessant radiation from so large a body. On the other hand, by absorbing more rapidly than land the superior heat of the atmosphere, it materially reduces the temperature in summer, and thus maintains a comparative equability.

With rivers and all smaller channels of water, it is wholly different: the mists which are perpetually arising from them is confined between two ranges of hills, and having no room to disperse, are condensed and precipitated to the earth in cold evenings, and by their deposition upon plants, affording, as it were, an attraction to frost, subside into globules of congealed fluid, the mischief occasioned by which is soon exhibited, after the first action of the sun. But where the valley occupies a broad district, these vapours, possessing, like heat, a diffusive power, are dispersed through even its most remote parts; and their density, with its concurrent effect upon vegetation, is proportionately lessened.—Parton's Mag.

On the Pomegranate.-Planting and Situation.-The single and double Pomegranates are hardy enough to stand in the open air of most parts of the south of Britain, and in such situations flower freely, when the trees have attained a good size, and are of several years standing; but, to plant with the view of obtaining fruit, they should be accommodated with the warmest and most sheltered spot the situation affords, and always against a south or south east wall. Soil-a strong, rich, loamy soil is considered the most proper for such trees as are grown within the limits of large pots of boxes; but a lighter and poorer soil, upon a dry subsoil, will be more suitable to trees planted in the open borders, as having less tendency to cause excess of growth in the shoots, which would be but imperfectly ripened in autumn, to fit them for producing flowers and fruit in the following season. Miller recommends a strong rich soil, in which, he says, " they flower much better, and produce more fruit than if planted on dry poor ground.". This, we apprehend, he means for such only as are grown in pots or boxes; certainly, in such a soil, they would not succeed in the majority of situations in Britain.

-Pruning and Training.-The flowers proceed from the extremities of the branches produced the same year. It follows that these should be duly encouraged, and room made for their being laid in close to the wall, by cutting out annually, early in spring, all or most of the weak or superfluous branches of the former year's growth, and shortening the stronger ones left, to cause them to send out young shoots to produce flowers, and that as regularly over the tree as possible. Miller recommends autumnal pruning, which, he says, has a tendency to cause the young shoots to push earlier in the following spring. This is a doctrine which was entertained, particularly in the case of the vine, amongst the gardeners of the last age, and has been revered by some of the present. Our own observation has not led us to see any difference in regard to the plant in question; but, as it is an operation which does not otherwise interfere with the growth of the plant, the experiment is worth a trial. The summer regulation of the shoots consists simply in displacing some of the weakest and removing too luxurious and ill-placed ones, to admit light and sun heat to ripen the fruit, and bring to maturity the branches which afford a supply of young fruit-bearing shoots.

On Hor Walls.—Supposing a south wall, built hollow, and heated with hot water, (as all our walls are to be,) planted with the early ripening sorts of grapes, late peaches, and some of the best late ripening plums, such as Coe's Golden Drop. The trees not to be excited in spring, which should never be attempted with hot walls, but rather retarded in their blossoming, by keeping the branches as far from the wall as possible, till they begin to blossom, at which time they are to be laid into the wall, and the blossom protected with thin canvass awnings, particularly during night. In July, at which period the roof sashes of the early forced peach houses and vineries will be removed, these are intended to be employed to cover the above wall in the following manner:-A permanent stone curb, twelve inches high or more, or a wooden plank of the same height, will answer as well, is laid along parallel to the bottom of the wall, and two feet distance from it. This curb is furnished with a groove, in a batten of wood, an inch and a half deep, and three inches wide, to receive the bottom rail of the sashes, the top rail to run in a corresponding groove, in a batten of wood, fixed to permanent brackets, near the top of the wall, the distance between the top and bottom rail of each sash, to be furnished with two brass rollers, to facilitate their movement. The glasses, it will thus appear, will stand perpendicular to the wall, and at two feet from it, and ventilation, and the necessary operations of pruning and gathering, can be carried on from without, the lights being made to pass each other in the grooves, as in the manner of what is called barrack windows. The concentration of solar heat in August, September, and October, with the power of applying fire by means of the hot water pipes in the walls, which may be safely used as soon as the glasses are put, will not only ripen our best autumn fruits, but also mature the wood and buds for succeeding crops. Grapes and plums may be pro-longed by this mode, we think till Christmas; or, indeed, until the glasses be required to be again put on the early forcing houses, and our finest Flemish pears, late peaches, and nectarines, which do not often ripen well in England on the open walls, and never in Scotland, will be brought to the highest perfection. Hot walls we have long ago proved to be of little or no value in spring, but their efficacy in autumn no one can doubt, and their utility will be greatly increased by having this covering of glass before them.—M'Intosh.

If the practice of shading, getting up, cutting out, and removing the centres and petals of Dahlia flowers be persisted in, it will be necessary for those who do not adopt this practice of preparing their flowers, to compete only with such as themselves; and hence the fact that by shading, getting up of the centre, removing improper petals and the like, the utter impossibility of those unacquainted with the dahlia and these practices of forming a very accurate judgment of what the flower would be if grown in the usual way. There is no such thing attempted as that of bringing a dahlia for competition without its having been kept in a box for a week or more previous to the time it is intended to be exhibited. By thus excluding it from the light, the

colours become more delicate, and the centres of the flowers are also brought up, as it is termed, by placing over them small garden pots: and such is the extent to which these practices are now carried, that it would be the extreme of folly to present flowers with the view of competition unless treated in this way, and that with the greatest possible care: and nothing but the practical skill of the florist can accomplish this with success, because some flowers require to be shaded for a greater length of time than others, which nothing but practical observation can attain.

AN IMPROVED METHOD OF BAISING EARLY POTATOES IN THE OPEN GROUND .- It has long been known that abundant crops of late and luxuriant varieties of potatoes may be obtained by planting very small pieces only of their tuberous roots: for the plants of those varieties always acquire a considerable age before they begin to generate tubers, and, therefore, do not too soon begin to expand themselves. But plants of early varieties very soon after they first spring from the ground begin necessarily to expand themselves in the production of tubers; and the size which these acquire within any given period in the spring, will be to a great extent regulated by the strength of the plants at the period when they first spring from the soil; and strong plants of such varieties can be afforded only by sets of considerable size. I have, in consequence, for some years past, selected in the autumn the largest tubers, and those nearly of an equal size, for planting in the spring; and I have found that these not only uniformly afford very strong plants, but also such as readily recover when injured by frost; for, being fed by a copious reservoir beneath the soil, a reproduction of vigorous stems and foliage soon takes place, when those first produced are destroyed by frost or other causes. When the planter is anxious to obtain a crop within the least possible time, he will find the position in which the tubers are placed to vegetate, by no means a point of indifference; for these being shoots or branches which have grown thick instead of elongating, retsin the disposition of branches to propel their sap to their leading buds, or points most distant from the stems of the plant, of which the once formed parts. If the tubers be placed with their leading buds upwards, a few very strong and very early shoots will spring from them; but if their position be reversed, many weaker and later shoots will be produced; and not only the earliness, but the quality of the produce, in size will be much affected. In the spring, when the young plants are just beginning to appear in the rows, I have often found it very advantageous to raise the mould over them in ridges by an operation perfectly similar to that of moulding the plants.

ROYAL ASIATIC SOCIETY OF GREAT BRITAIN AND IRELAND.—PROCEED-INGS OF THE COMMITTEE OF COMMERCE AND AGRICULTURE, 1831.—The subjects which have hitherto received the attention of the Committee are, in the first place, Caoutchouc. This valuable substance has as yet been obtained chiefly from Para; and when in the year 1828 samples of it were sent from Assam to one of the principal agency houses at Calcutta, no opinion could be given of its value, although it was at that time selling in London at two shillings a pound. But in Sylhet, one of the poorest and most unproductive of our Indian provinces, there are forests of trees yielding this substance, as was long since stated by Dr. Roxburgh; and now that attention has been called to its value, it appears that "several individuals are engaged in collecting it, and that enough will be doubtless procured to meet all the demands of this country." One person alone is reported to have collected 80,000 lbs. weight in a single year in Lower Assam,—Annals of Natural History.

BAWTRY HALL, THE SEAT OF CHAS. RAMSDEN, Esq.—Mr. Thackray, the gardener, here uses liquid manure with excellent effect, and says a single pailfull is equal to a barrow load of decayed manure. He has proved this in various instances, especially in applying it on asparagus beds. For kitchen garden cropping of every kind it is invaluable. Mr. Thackray says it ought to be applied with great caution in summer.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XLII.-NOVEMBER, 1839.

ORIGINAL COMMUNICATIONS.

GARDENING OPERATIONS APPLICABLE FOR THE PRESENT MONTH.

BY J. T.

The multifarious operations which at this season of the year devolve on the florist, the amateur, and indeed gardeners of every variety, is second only to that of the early spring months, March. April, and May. Amongst the duties which now press themselves with particular force upon the attention of the florist, are the lifting of tender plants from the open borders, flower beds, &c., being those which were planted out during the previous spring, and are too tender to endure the winter, and, therefore, require some protection from frost. Some of the most important of these are the varieties of geraniums, verbenas, anagallis, petunias, salvias, calceolarias, heliotropium, lobelias, &c., which, with their varieties, amount to many hundreds, and last, but not least, the dahlia may be mentioned; these, with their varieties, are amongst the most ornamental plants for decoration, and for filling up the flower beds throughout the summer: and when used extensively, it becomes requisite to make provision by preserving more or less of the plants for increase the following year. The usual method of performing this operation shall be presently noticed; but first, with regard to the geranium, if not already lifted, no time ought to be lost in doing so. In lifting and potting geraniums from the open border, it is a common practice to prune and cut away much of the top, in order that the plants may require the less reom in the greenhouse, or in whatever situation they are intended to be stored. This is, however, quite wrong; the plants ought to be lifted before they receive the slightest check from frost, un-

less this be attended to, they will become affected with damp, and the gross and succulent stems will decay. effectual plan to prevent this, is to lift the plants early, probably during the first or second week of October: they should be planted in pots, preserving as many of the roots as possible, and giving them rather poor soil, placing them in an airy but shaded and cool situation in the greenhouse or frame. They require to be well watered at first, but sparingly afterwards, giving the roots sufficient only to prevent the leaves from fading. keeping them in a dry airy situation and watering sparingly, the shoots will ripen rapidly, and the leaves will fall off; the latter ought to be carefully gathered up to prevent the decaying leaves from infecting the stems. In many of the succulent kinds, such as the scarlet sort, the greater part of the leaves fall off early after they have been potted, and as soon as this is the case, they may be tied up pretty close together, and set by for the winter; and if kept cool, but protected from frost, they will remain dormant, and require very little farther care till the following spring. require to be treated differently, in respect to pruning; the longest shoots may be cut off without any fear, if the plants are kept close from the air, and exposed to a little heat for a short time, in order to produce a slight excitement and growth. This is more particularly essential to V. millindris and its varieties: for unless the plants are lifted very early, so that the natural growing season may cause as much growth as to establish the roots in the pots after being lifted, or be placed in a warm situation for a week or so, to cause the plants to take with the pots, they seldom survive the winter. Anagallis, petunias, and salvias, and, indeed, many similar plants, require only the usual treatment, and to be protected from frost during winter in an ordinary structure, capable of excluding frost and admitting light. Heliotropium is, perhaps, more tender than the verbena millindris, and requires the same treatment; the plants when shifted, should be placed in a stove or warm vinery for a week or ten days after being potted, and to be kept from frost with greater care than any of those previously noticed. Lobelias, the various varieties of this genus, such suitable ornaments for the flower garden, require also to be kept in pots through the winter, but may be preserved in cold frames without any artificial heat. The kind of soil best suited for the purpose

of potting plants that have grown in the open borders during the summer, is a light sandy earth, mixed with a little leaf mould. I have found that the primitive earth from the moors, being the decayed stems and foliage of indigenous species of the genus erica, admirably adapted for this purpose: and plants kept in this earth through the winter were more healthy, and in a better state the following spring, than others of a similar kind, treated in all respects the same, but in a different compost. I shall not enter on the reasons that might be adduced with the view of accounting for this on philosophical principles, but merely content myself with stating a fact which has been forced upon my attention at various times during the last several years.

Dahlia roots may be preserved, and indeed are preserved, in such a variety of ways, that I need hardly enter on any lengthened detail on this head. I shall, however, record, as briefly as possible, my own practice and experience. To fix on any definite time as the proper period for lifting the roots, would be attended with no . advantage, inasmuch as one part of the country differs greatly from another, and even in the same district of country, comparing the higher with the lower ground, Dahlias are often killed in the hollows several weeks before they are at all injured on the higher ground, although it may be that the high and the low situations are within a quarter of a mile of each other. Therefore, all that can be safely recommended on this point, is to guard with the most jealous watchfulness, against even the slightest injury from frost, that is, to the tubers and about nine inches or a foot of the stem. With the choicer kinds, I draw the earth round the stems, and upon this I lay, round the necks of the plants, old tan, saw dust, or tanners' bark. By this means, a slight mound is formed round and over the roots of the plants; and any of the three last materials repel the wet so, that the roots and the stems become gradually dry. Then, after the first frost, when the tops have been killed down, or the greater part of the leaves and stems have decayed, the roots are lifted, selecting a dry day for the purpose. The roots are then placed on boards, in some open or airy situation, and, if possible, exposed to the sun, their number-sticks or labels having been carefully secured, by copper wire, to the tubers se they are lifted. In this way they are kept till they become dry, that is, the earth that adheres to the roots. A shallow box, or

bexes, according to the number of the roots, is then provided with a mixture of sand, leaf mould, and light earth, (this compost being dried so as neither to convey damp nor extract too much of the juices of the tubers, and thereby cause them to shrivel, is then filled in amongst the roots, a little being first laid upon the boards. The tubers are covered with this compost, about two or three inches in depth. If want of room or circumstances require it, a second tier of roots is placed upon the roots, and covered in like manner. The situation in which the boxes are to be placed is the next consideration; and perhaps the best that can be selected is a chamber floor of a dwelling-house, or, in fact, any dry chamber, with a boarded floor, will answer the purpose equally well. The boxes require to be frequently examined, for if the earth amongst which they are deposited becomes damp, it will occasion the roots to rot, and if too dry, the tubers will shrivel and decay; so that these considerations ought to be carefully attended to. During · frosty weather, the apartment must be inspected, and the roots and boxes well covered with matting or straw, so as to effectually exclude the frost. These remarks comprise the important points to be attended to; but the amateur, anxious for his favourite roots, will discover for himself many others. The above observations are given with especial reference to the choicer kinds, but will apply equally to all other kinds, and it would be well were it practised, did time and expense permit. I may just mention, that roots live in the open borders through the winter, without any care whatever; and during the last two unusually severe winters, I observed several instances of this; when the roots had been left in the ground, they shot up and grew vigorous the following spring. That this would be a safe and wise course to pursue with roots generally, I am by no means prepared to prove; but it is not at all improbable that it might be turned to account. Dahlias have been, and are often kept in pits, after the manner of potatoes; and if the dahlias could be ripened and properly dried, it is very likely that, in dry situations, the tubers would be much safer in such situations than when exposed to the ever varying temperature of the atmos-I have never been able to quite satisfy my own mind as to the effect of exposing the tubers of the dahlia to the full rays of the sun, with the view of thoroughly drying the roots, and greening and maturing the eyes, as recommended for early sets of potatoes.

My impression is, that it is attended with advantage, when applied to those roots which are difficult to excite into growth at the proper season. Having thus dwelt at some length on the properties and characteristics requiring to be guarded against, and others promoted and encouraged, with the view of turning the culture of the various species and varieties of half-hardy border flowers to the best account. I shall offer a few remarks on some of the more ornamental plants, which, in ordinary cases endure our winters with little or no injury. These when grown in the open ground, are all, more or less, liable to continue to grow till checked by the autumn frosts. They are then especially susceptible of the slightest cause to disease, and death frequently follows as a natural result. To check or remove the first cause, namely, that of late growth, I have found the following practice to be attended with excellent-effects: -- Some weeks before frost is anticipated, I cut the roots of my tender plants by thrusting a spade or sharp instrument deep into the earth, round the stem of the plant, and at a foot or nine inches more or less. from the stem. By this practice all the strongest, the largest, and most vigorous roots are cut: the supply of nourishment being thus cut off by separation from the strongest roots, the growth of the plant is suspended, but yet sufficient strength remains to mature the buds and shoots already formed. These rapidly harden after this operation, and on the arrival of severe weather, are in a much better condition to resist the cold, than when allowed to grow until checked by the first visitation of the autumnal frosts. This practice is of universal application, and may be practised with advantage on all plants which are in the least degree susceptible of injury from the effects of cold.

I shall now address a few remarks on another subject, on which I take some credit to myself for the possession of many years' practical knowledge, together with as large a share of success as I could desire. The subject to which I refer is, the cultivation of the mushroom, and the plan which I shall first notice, is that in general use amongst the market gardeners around the vicinity of London. Winter and early in spring is the season when this much esteemed vegetable is in the highest request amongst the principal families and visitors of the metropolis. Its cultivation is, therefore, an object of great commercial interest; and were it better understood, would, unoubtedly, be much more extensively used.

The plan alluded to is the following:—During the autumn, stable yard manure is collected in quantity according to the number or the extent of the beds required. It is so contrived in preparing the manure, to obtain as much as possible of the recent droppings. When a sufficient quantity has been obtained, it is turned several times, and well mixed together, so that it is decayed sufficiently before it is formed into a bed, to prevent it from heating violently. The preparation being so far complete, a dry situation sloping to the south is preferred, and selected for the site of the intended bed, the length of which must, of course, depend on circumstances, being wholly regulated by the demand. The usual width, however, is about four feet at the base, and about three feet in height, and will be readily understood by Fig. 1, which represents a



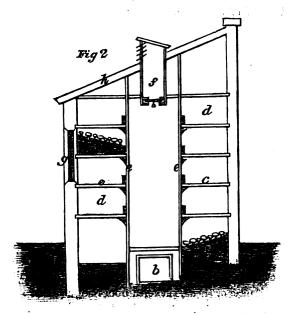
section of the bed, the base of which is formed by a quantity of long litter; the prepared manure, as described above, is then placed on this, and very firmly trod

and beaten down with the implement, during the process of forming it. It is allowed to remain in this state for about ten days or a fortnight, more or less, depending entirely on the state of the heat in the bed. It is preserved, however, as much as possible from heavy rains, and when the heat has subsided to the temperature of new milk, it is considered in a fit state to have the spawn introduced. The spawn is planted in small pieces little more than an inch square, and at the distance of about twelve or fifteen inches apart; it is just placed within the surface of the bed. As soon as this operation is performed, it is usual to soil the bed, as it is termed; that is, to cover it with earths about two and a half or three inches deep. This compost or earth should be formed of part fresh loam and light garden earth. Much of the success of the bed depends on the proper management of this part of the business. If the bed be allowed to become too cool before the spawn is introduced, it will probably perish, or, at any rate, will not run, and will, therefore, prove of no use; and, if it be spawned too hot, and soiled

immediately, the spawn will be destroyed by the violent heat. The covering of the bed is the next consideration, and this must also be regulated by the temperature of the bed: a very mild heat is all that is desirable, but this should be preserved as long as possible. It is not always possible to retain a heat that is perceptible, the bed ought, nevertheless, to be kept covered. It is usual to use a little dry hay next the bed as soon as the mushrooms begin to appear through the soil, and this should be renewed from time to time as the covering is removed for the purpose of gathering the mushrooms. Besides the hay, which is only used when the bed is in a bearing state, there is a covering of long litter required, varying from nine to eighteen inches in thickness. The beds being in the open air, and exposed to heavy rains during the winter season, the thickness of the covering just described is indispensible.

Beds formed in this way continue to produce mushrooms for two or three months, when properly made and managed.

It is, of course, desirable to open the beds for the purpose of gathering the mushrooms when the weather is fine; and they ought never to be cut, but always twisted round and the root of



the stalk pulled out. When cut, the part of the stalk left in the casth decays, and causes the young mushrooms to damp and perish.

The mushroom is also very frequently cultivated in what is termed mushroom houses, of which Fig. 2 is a section. Structures of this kind are in general use in first rate gardens, and in many respects are very excellent, when a large and regular supply is required. They are generally formed in a back shed, behind some of the forcing houses, in the kitchen garden, so that the back wall answers a double purpose.

The length of the house may be varied according to circumstances, and may be described as under:—

- b. Smoke flue under the path.
- e. Stone or wood shelves on which the beds are formed.
- d. Two feet spaces between the beds.
- Uprights at five or six feet apart to support the frame work for the shelves.
- f. Ventilator in the roof.
- g. Front window to admit light when required, but to have out-side shutters.
- A. Roof of the house, slated or thatched.
- i. Showing the bed when formed.

The manure to be properly prepared for beds in a mushroom house of this description, requires to contain a greater quantity of short manure, sheep or deer dung is valuable when added to the stable manure. The beds ought to be 15 or 18 inches deep, and made as firm as possible, and require to be covered with soil in the same manurer as those out of doors.

In applying artificial heat, great care is requisite, as the mushroom is exceedingly impatient of this element, and the temperature ought never to rise higher than 50 degrees, while the atmosphere should be preserved as moist as possible.

Mushrooms are often cultivated in a variety of ways, on a small scale, and, indeed, every person who keeps only a single horse, or a few sheep, may have mushrooms every day in the year. The manure only requires to be laid in a heap as it accumulates, and if occasionally turned at first, so that it may gradually decay in any outhouse or shade, sheltered from rain, made firm by treading, and covered with a little earth and dry soft straw. In this

way mushrooms seldom fail to grow, the bed being kept moist but not wet.

Mushrooms may also be grown in portable boxes, placed in a part of the cellar, not exposed to a strong current of cold air.

J. T.

REMARKS ON THE DAHLIA SHOW, HELD IN THE BOTANICAL GARDENS.

BY THE EDITOR.

The last exhibition for the season was held in the Sheffield Gardens on September 26th. The display of dahlias was very good, and competitors attended from various, and some from distant parts of the country, such as Nottingham, Wakefield, Oxford, &c. Several seedlings were also shown, but to us there did not appear to be any thing of much interest.

The dahlia is unquestionably one of the most interesting and beautiful of autumnal flowers, but the nefarious practices which have been resorted to at almost every exhibition of any importance, which has been held during the present season, but too plainly show, that unless some means be adopted to check the almost endless methods and expedients which are adopted for the purpose of obtaining prizes by unfair means, the dahlia must fall into disrepute. At present, it would be the height of folly for any person to hope to be successful as an exhibitor of dahlias, unless he is prepared to adopt any expedient, and to have recourse to any alternative, however dishonourable. We are quite sure there are sufficient facts on record, as the results of the various shows, held in different parts of the country throughout the present year, to fully warrant us in the statement which we have just made.

We subjoin the following, being the names of the flowers composing the stands of the successful competitors for the principal prizes awarded at the show in question. One reason for doing this is, because it is the test by which flowers can be tried; and any flower admitted into a stand, when twenty-four blooms are all that are shown, is a sufficient proof, at least in ordinary cases, that it is a standard bloom, and the kinds composing these stands may be considered first-rate sorts, and probably many of them will continue to be regarded as such, while many of the new kinds will have flowered this year for the first and last time.

FIRST PAN .- MR. ROBINSON.

Dodd's Mary
Marquis of Lothian
Mountjoy's Rosa
Ringleader
Purple Perfection
Essex Rival
Oakley's Emperor
Rival Queen Superba
Antiope
Amateur
Virgin Queen
Duchess of Richmond

Standard
Eva.
Girling's Contender
Don John
Nottingham Hero
Springfield Rival
Hedley's Perfection
Unique
Stanford's Contender
Girling's Juno
Robert Buist
Lewisham Rival

SECOND PAN .- MR. BATES, OXFORD.

Dodd's Mary
Springfield Rival
Eva
Cambridge Hero
Stamford's Contender
Case's Antiope
Lane's Lady Deacon
Hope
Standard
Marquis of Lothian
Sir Henry Fletcher
Jones's Frances

Queen of Sarum
Conductress
Sir F. Burdett
Victory
Seedling, No. 8
Marchioness Lansdown
Cupped Crimson
Bontishall
Watford Surprise
Miss Johnston
Essex Rival
Johnson's [7]

THIRD PAN,-MR. ATKINSON.

Purple Perfection
Rival Prima Donna
Suffolk Hero
Virgin Queen
Lord Folkstone
Marquis Lothian
Oakley's Emperor
Elphinstone's Purple
Perfection
Dodd's Mary
Essex Rival
Cupped Crimson

Amato
Ingestire Rival
Miss Johnston
Topaz
Mountjey's Rosa
Wonder
Standard
Lady Mallet
Lewisham Rival
Invincible
Ruby
Evan's Wallace

FOURTH PAN .- MR. EVANS.

Marquis of Lothian Standard Girling's Invincible Virgin Queen Cupped Crimson Oakley's Emperor Suffort Hero Beauty of Hydevale Mrs. Colt Purple Perfection Essex Rival Ringleader
Haywood's Defiance
Dodd's Mary
Bishop of Cambridge
Girling's Contender
Springfield Rival
Evan's Wallace
Duchess of Richmond
Fire Ball
Ruby
Lewisham Rival
Rival Sussex

REMARKS ON NEW PLANTS.

BY THE EDITOR.

We subjoin the following as new plants, included in the list of a nurseryman from Edinburgh. Some may have previously been noticed in this Magazine; but they are repeated here, because they are now increased, and may be obtained by those who wish to possess them:—

: Passiflora onchinus.—This bears greyish white flowers; and, we believe, grows and flowers freely in the green-house.

Bowardia splendens.—We have not seen this plant; but knowing its congener, B. triphylla, one of the most ornamental little plants in cultivation, we are encouraged to hope that this will be something very good.

Fabiana imbricata.—This is a neat little plant, having the habit of a heath.

Streblorhiza speciosa.—This is spoken of as one of the choicest and most valuable and interesting plants at present in cultivation, and said to be quite hardy, and nearly related to Clianthus punecius.

Dianthus grandiflorus.—It is needless to offer anything in commendation of a genus, every species of which is so peculiarly beautiful, and many others splendid. Who has seen, and not admired the varied colours and forms of the Pink, the Carnation, Picotee, the Sweet William, the Indian Pink? Nor is the exquisite delicacy and beautiful arrangement of the colouring matter, more remarkable and striking than the rich and refreshing fragrance of the whole family.

Verbena Lobelliodes .- In habit very distinct.

Erica Mediterranea nana.—Any addition to the hardy heaths must necessarily be valuable; and we have no doubt this simple little variety will be regarded as such.

Spirae adiantoides.—The species of this genus are chiefly ornamental; and, as a hardy shrub, we presume this will be welcome.

Maurandya species.—M. Barckley and M. semperflorens are well known to many of our readers for their beauty and habits, so admirably adapted for covering trellis, or basket-work, during summer.

Bignonia speciosa.—This also belongs to a very ornamental genus.

Osbeckia canescens.—Of this we know nothing more than the name, which was given to us as a new plant.

Such are some of the new plants which nurserymen have to offer; and to these may be added, two Salvias, one of which has been raised in the Sheffield garden, the other sent by a friend from a very remote part of the country. Besides the two just named, we have here two others as seedlings, raised in this garden from seeds imported amongst the roots of some orchidea received from Rio Janeiro.

ON THE CULTURE OF THE CARNATION AND PICOTRE. BY GRORGE MUSCROFT, OF WINCOBANE, NEAR SHEFFIELD.

These beautiful flowers should be planted about the latter end of March, or the beginning of April, in a compost prepared in the following manner.

Take one third of fresh earth, one third of rotten cow dung, and one third of river sand or wood earth, mixed well together; let it remain in this manner a few months, then a few weeks before it is wanted for use sprinkle a little quick lime amongst it, and run it through a riddle. If there be any wire-worms discovered in it, great pains should be taken to destroy them, as they are very destructive to these kind of flowers, eating up the pith of the stalk when it is running into flower, and by that means completely destroying it.

A stake should be stuck by the side of the plant, and the flower stalk continually tied thereto as it advances in growth. When the flower pods appear, the smallest of them should be plucked off, leaving only three or four of the strongest; by this means the flowers will be much improved. Care must be taken when the pods begin to shew their bloom, that they do not burst; this may be prevented by tying a thin strand of matting round the pod.

At this stage of the flower, the earwigs must be well looked after, as they do much damage to the flowers by creeping into the pods and eating the petals.

In July or the beginning of August, young shoots should be

layered, and when they have taken root, should be transplanted into small pots and kept in a frame for final planting in the spring.

They are a most beautiful and sweet scented flower, and good shoots may be grown in perfection for showing, for twenty or even forty years.

[Mr. Museroft is a most successful grower, and has been the means of introducing several new varieties which he has raised from seed. One or two of these flowers we shall shortly figure.—Ep.]

ON THE USE AND ADVANTAGE OF LIQUID MANURE.

BY B.

Notwithstanding the repeated recommendations of practical men, in favour of liquid manure, but little attention is paid to the subject. If it be of the vast importance which it is said to be, why is it so little used? Why does not every garden contain its tank, in connexion with the manure heap? To make such an arrangement—to provide a receptacle to retain the juices of the decaying weeds in the rubbish heap, can neither be difficult nor expensive; and if it be practicable and easy of accomplishment to provide for the latter, the same arrangement would be suitable for the manure heap. A common tub or cask of any kind will answer the purpose, and if it is leaky of itself, it may be rendered water tight, by puddling round the outside. It is supposed, of course, to be placed with its upper end level with the ground, or as much under the surface as will insure drainage running into it.

I have applied it in various ways, and, in every instance, with results which have proved its valuableness. On my flower beds, I have used it freely, during winter, and especially in frosty weather, when snow was on the ground. I have several tanks, but they are all connected with each other. In one of these, I have fixed a large wood pump, through which the liquid is drawn and carried to the flower beds and borders, as time permits.

I should like to know the results of others on this subject, and I may communicate further particulars at a future time.

В.



NEW AND RARE PLANTS IN THE METROPOLITAN NURSERIES.

Combretum, species nova.—We noticed in the collection of Messrs. Low and Co., of the Clapton Nursery, some fine plants of a very remarkable species of Combretum, a native, we are informed, of the East Indies. It is of a very robust habit, and quite a climber; the stem is very pubescent, and the foliage large, and strongly nerved. The old leaves are of a very deep green, while the young leaves, which are covered with a soft down, possess a beautiful reddish purple tinge. This promising plant has not yet bloomed in this country. But for the present great dearth of novelties, this elegant species of so valuable a genus cannot fail to attract much attention from those who are seeking from the great metropolitan marts, their annual supply of new and interesting plants.

Gesneria barbata.—An interesting and showy species, in foliage resembling G. oblongata, but of a much denser habit of growth, and in all respects superior to that species. Its flowers are of a lightish red, and showy.

Agnostis sinuata.—We are truly glad to find that this noble plant is again in the London trade, and we hope that it will now become gradually more plentiful. For beauty of foliage, it stands unrivalled even among the numerous beautiful evergreens of Australia, of which country it is a native. It has not yet, we believe, produced its flowers in this country.

Echeveria pulverulenta.—A species recently received in this country from North America. It is of much dwarfer habit, and appears to be altogether a more manageable plant than E. gibbiflora, while its foliage is more delicate and beautifuly glaucous. Messrs. Low, of Clapton, possess a curious narrow-leaved variety of this species, which we have not seen elsewhere.

Chorozema lancifolia.—Among the many beautiful Australian genera which occupy our greenhouses, the genus Chorozema is conspicuous. C. Henchmanni, C. cordatam, C. Dicksonii, and C. varium, ranking in the very first class of greenhouse plants. And the subject of the present notice, which has been raised by Messrs. Low and Co., from seeds received from the Swan River,

promises to increase the interest of the genus. In habit it is remarkably distinct from any other species of the genus, while its long, narrow, lance-shaped foliage, produces in the mind of the horticulturist a momentary doubt, as to whether it is in reality a Chorozema. It appears to be of very free growth, and is said to produce scarlet flowers. This is, undoubtedly, one of the most interesting plants at present offered for sale in the metropolis.

Fuchsia fulgens.—We have seen some very interesting hybrids between F. fulgens, and some of the small-leaved varieties, and there is every reason to hope that something good will spring from the union. The plants we have seen, are decidedly superior in foliage to the present species, and if there be a corresponding improvement in the flower, they will, indeed, be valuable.

Thunbergia aurantiaca.—This plant, which first appeared in the valuable collection of the Messrs. Young, at Epsom, is remarkable chiefly for the absence of the dark eye or centre, which is found in T. alata, which species it very closely resembles in all other respects. T. aurantiaca, is, doubtless, a very showy plant, and valuable, as forming a variety to those who possess extensive collections; but we must confess candidly our opinion, that in losing the dark centre of T. alata, it has lost the greatest attraction which that beautiful plant possesses. We are not aware whether the subject of this notice is a distinct species, or merely a seminal variety from T. alata.

Jacksonia grandiflora.—A very pretty broomlike shrub, raised from seeds imported from Swan River. It is of a graceful, pendulofs habit, and produces terminal spikes of light buff flowers, tinged with orange. This plant is at present producing its blooms at the Clapton Nursery, although, we doubt not, its proper time of flowering is the spring, at which season it will, without doubt, be much finer than at present.

Oetober 14, 1839.



REFERENCE TO PLATE XLIV.

LILIUM SPECIOSUM, VAR. PUNGTATUM.
SYNONYME LILIUM LANCIFOLIUM, VAR. PUNCTATUM.
LANCIFOLIUM ROSEUM.
SPECIOSUM KÆMPFERI, Siebold.

NAT. ORD. LILIACE E. CLASS HEXANDRIA MONOGYNIA.

The magnificent species of this genus, natives of China, which have been recently introduced into this country, and now occasionally met with in choice collections, are, unquestionably, the noblest and most beautiful floral objects that have been added to British collections for many years. The variety now represented, is one of the handsomest of the three or four? which are now cultivated, and may be purchased from respectable nurserymen, at from three to four guineas for a small bulb. Having stated this as the price, we need hardly add that they are still extremely rare, and must necessarily continue so for some years. Multitudes of plants are annually introduced as new, but scarcely live in public favour sufficiently long to be recorded in the journals of the botanist and floricultural amateur, when they have passed away and are forgotten. The perspective history of the liliums in question, present us with a more cheering aspect. They are objects of permanent beauty, and will continue to increase in popularity for many years. At present there are only a few flowering bulbs in this country or on the Continent; but as they increase and become cheaper, and, of course, better known, they will also be more highly esteemed and universally cultivated. If, therefore, our conjecture be rightly formed, the liliums will be an object of commercial interest for many years, of more than ordinary interest to the florist, pointing as they do to a field as vast in extent as it is promising in remuneration to whoever may prefer to pursue it. We refer to the creation of new varieties by seminal offspring, being the result of cross fertilization.

For further remarks on this genus see page 67 of this vol.

The oultivation of these liliums is most successful, when tracted as green-house or half-hardy bulbs. The soil which they prefer is a rich sandy loam, with a mixture of leaf mould, sand, and well decomposed manner, preserved in a cold dry pit during winter, and excited by gentle heat during the growing season. When the bulbs have become plentiful, we have not the least doubt but they may be grown in a dry sheltered border, out of doors, with all the success that can be desired, requiring only a slight covering of straw or old tan to be removed early in spring.

The flowering season is August and September.

For the opportunity of giving a figure of this splendid plant, we are indebted to Messrs. Fisher, Holmes, and Co., of the Handsworth Nursery, who possess a large stock of these lilies.

SOLLYA SOLICIFOLIA, Willow-leaved Sollya.

NAT. ORD: PITTOSPORE ... CLASS PENTANDRIA MONOGYNIA.

A drawing of this pretty little greenhouse shrub has been obtained for us from the nursery of Mesars. Low and Co., of the Upper Clapton Nursery, London, having been obtained there from New Holland. It has been noticed at page 62 of, this volume, and has evidently a very close affinity to S. heterophylla; but as remarked in the notice referred to, it appears to differ from that species in the narrower leaves, and much less robust habit of the whole plant.



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Teo West California The thirst for novelty is strongly displayed by the amazing rapidity which objects of interest displace and succeed each other. Perhaps there are not more than one in every hundred of the new plants introduced into this country, that are retained in general cultivation beyond the first or second year of their introduction. In obedience to this principle, and, notwith-standing the graceful habit and extreme beauty of the flowers of S. heterophylla introduced about 1835, and first published and figured in the tenth volume of the Botanical Magazine, in 1836; yet although this plant requires only the protection of a cold frame, is cultivated with the greatest ease, yet with all these advantages, it is now seldom seen. What may await the species in this respect, which we have here figured, it is not necessary to consider. It is certainly a very beautiful greenhouse climber, and nothing can be more intense than its blue coloured bell-shaped flowers.

NOTICES OF NEW PLANTS.

NELUMBIUM LUTEUM, Yellow Nulumbium.

Bot. Mag.

NAT. ORD. NYMPHÆACEÆ. CLASS POLYANDRIA POLYGINIA.

This noble water lilly has produced its splendid flowers in the garden of Edward Sylvester, Esq. of Chorley, Lancashire. The habit of the whole plant somewhat resembles that of our common white water lily. The flowers are, however, of a greenish vellow, and the leaves round, supported by a stalk from the centre of the under side. It would appear that Mr. Chorley received the seeds of this plant from Mr. Anderson, of the Chelsea Botanic Garden, and Sir William Hooker observes that this is the first instance of its flowering in this country; and "from the representation which we are thus privileged to give, it will be at once seen how very closely this species is allied both in its flower and fruit to the classical Nelumbium speciosa, of the East Indies; the chief if not the only difference being in the colour of the blossom, and the appendage to the anthers. The present is, however, exclusively an inhabitant of the still waters of North America, where it is called Water chenquepin, and it chiefly abounds in the Southern and Western States, extending, however, as far North as Philadelphia, Kentucky, Connecticut, and Lake Ontario. He seems to think, therefore, that this splendid aquatic might come to perfection in favourable situations in our climate. The N. pentapetalum and the N. reniforme of American authors, are probably mere forms of the present species." As there is little doubt but this beautiful plant will some day ornament the lakes and streams of this country, we hesitate not to annex the following remarks, communicated to Sir Wm. Hooker by Mr. Sylvester, stating some particulars respecting the blossoming of the yellow Nelumbium in his collection :-

"The flowering, I believe to have been the consequence of an accidental circumstance, which I shall mention. I had hitherto treated it like the red, or Eastern species, from an impression that it was confined to the most southern and warmest portion of North America; the pots of both being plunged in a cistern of water, kept at a heat of about 85 degrees; and, as the plants grew very vigorously and appeared to be in health, I did not try any other situation. They had never shown any disposition to bloom until the present season, when, in consequence of the gardener having left a smaller opening than usual in the flue which passes under the cistern, and which is entirely closed in the winter, the water remained at about 70 or 75 degrees, and the house was, altogether, cooler than in previous summers. Under these circumstances, while the red species threw up a number of flower-buds, none of which came to maturity, two out of the three plants of the yellow-blossomed sort flowered, and are ripening seeds, the house and the water have since been warmer, and N. speciosum is now, though later in the season,

coming into bloom. I have no doubt that, like many of the aquatic plants of North America, Hydro peltis, the Nymphæas, &c., which grow (and occasionally bloom during a very fine summer) in a shallow pot in the garden, the Nelumbium will be found sufficiently hardy to bear our winters, if the roots be plunged in water deep enough to protect them from the frost, and raised near to the surface during summer; but I am not very sanguine in hoping that it will be brought to flower in the open air, or in water, warmed only by the sun, as those plants which are above the water. Such as Pontederia cordata, Libiscus palustris, &c. appear to require a greater degree of heat for this purpose than our summer afford. My experience, however, is confined to this county, (Lancashire), where the climate is inferior to that of our eastern and southern counties."

ERYSIMUM PEROFSKIANUM, Deep orange flowered Treacle-mustard.

[Bot. Mag.

NAT. ORD. CRUCIFERA. CLASS TETRADYNAMIA SILIQUOSA.

Seeds of this new and pretty wall flower were received at the Royal Botanic Garden, Edinburgh, in May, 1838. The plant is a native of Caboul, and the plants raised that season flowered in a cold frame in May of the present year, and it is expected will ripen seeds.

In a note appended to the notice of this plant, the Editor remarks:—"It is to be regretted that more of the history of this ornamental plant is not known to us. Since Dr. Graham's communication arrived, I have received fine specimens of the same plant through the kindness of Lady Mary Catheart, who received the seeds direct from Caboul, but accompanied by the information that the plant was a native of Persia. This lady remarks that the plants grows slowly and languidly in pots, but the moment they are transferred to the open border, free from all restraint, they become as vigorous as the common wall flower, and put up many flower heads in ancession."

LUPINUS BARKERI, Mr. Barker's Lupine.

Bot. Reg.

NAT. ORD. LEGUMINOSÆ § PAPILIONACEÆ. CLASS DIADELPHIA DECANDRIA.

Dr. Lindley very properly makes the following remark, in reference to the well known and extensively felt confusion that prevails in the specific distinctions of the genus Lupinus. "To the crowd of species of this most difficult genus, a new one is added, with some hesitation; and, till the specific marks of the genus are better understood, it will be impossible to feel quite sure that varieties are not introduced under the name of species."

The flowers are blue, and approach near to L. elegans. It is a native of Mexico, obtained from thence by G. Barker, Esq. of Birmingham, in whose collection it would appear to have produced its flowers, which continue from June till destroyed by the autumn frosts.

AMYGDALUS INCANA, Hoary-leaved Abmond.

Bot. Reg.

NAT. ORD. ROSACEÆ § AMYGDALKÆ. CLASS ICOSANDRIA MONOGYNIA.

Many of our readers, at least, are acquainted with the dwarf peach or almend, of which the present plant is, we have little doubt, a mere variety, although raised by Dr. Lindley to the distinction of a species. It is said to be readily known from A. nans, in being thickly covered with hoary pubicens on the under side of the leaves. It is a hardy dwarf shrub, and whether it prove a species or variety it matters but little to floriculture, since its neat small foliage and rosy pink blossoms will render it a desirable object as an ornamental plant.

LEPISMIUM MYOSURUS, Mouse-tail Lepismium. SYNONYMUS CEREUS TENUISPINUS. Bot. Mag.

CEREUS MYOSURUS.

CEREUS MYOSURUS. CACTUS TENUIS.

NAT. ORD., CACTER. CLASS, ICOSANDRIA MONOGYNIA.

This plant has the habit of the Cereus triangulares, being three cornered,

but much more slender, and bearing a great profusion of yellowish-white flowers. The flowers are at first deep yellow, and the buds are tipped with pink. It is a native of Brazil, and flowered in July of the present year, in the collection of T. Brocklehurs, Esq., of the Fence, near Macclesfield, and was communicated by the intelligent gardener there, Mr. Appleby, with the following remark:—"The plant had been for some time in a greenhouse, and was then removed to the orchideous house. In conveying it thither, a portion of about half the length was broken off; and, as we had no room for more than one plant, the branch, herewith sent, was laid, unintentionally, upon some other large pots with plants in them, and in that situation, it has, to our astonishment, thrown out abundance of flowers, while the parent stock still remains barren.

BURRIELLIA GRACILIS, Slender Burriellia.

Bot. Mag.

NAT. ORD., COMPOSITÆ SENECRONIDEÆ. CLASS, SYNGENESIA SUPERFLUA.

A hardy annual with yellow groundsol-shaped flowers, and often cultivated in gardens under the name of Lasthenia california, to which it is necessarily allied, and to which it also bears a very striking resemblance.

TECOMA JASMINOIDES, Jasmine-like Tecoma.

Pax. May.

NAT. ORD., BIGNONIACE E. CLASS, DIDYNAMIA ANGIOSPERMIA.

This is a very handsome greenhouse shrub, bearing large trumpet-shaped flowers, of a light rose colour, having the interior of the tube of a dark rosy purple. This is a very beautiful plant, a native of New South Wales.

ESCHYNANTHUS RAMOSISSIMUS, Most branching Eschynanthus:

Pour. Mag.

NAT. ORD., CYRTANDRACE.E., CLASS, DIDYNAMIA ANGIOSPERMIA.

This splendid genus has been known, during the short period which it has beem cultivated in the stoves of this country, under the generic names of Incarvilles and Irichospermum. In general appearance, the species bears some slight resemblance to the genus Hoya, one of the genus of which has long been a popular plant, and often cultivated in the windows of living rooms, known by the designation of honey plant. Unlike, however, the dingy white, and waxy-like flowers of the Hoya, the genus now under notice produces large terminal clusters of brilliant scarlet tube shaped flowers, unequalled by few, and surpassed by scarcely anything we know, for the beauty of its flowers. We noticed, some time ago, a species of this genus under the name of grandiflors, certainly more beautiful than the present; nevertheless, this is a very pretty plant. It requires the stove to bring it to perfection, and may be cultivated successfully, by tying the stems to the trunks of trees, and covering them with moss. In this way, is requires to be syringed and kept moist. It has produced its flowers in the orchideous house of his Grace the Duke of Devonshire, at Chatsworth, and was introduced to that collection by Mr. Gibson, who discovered it growing on the tranks and branches of trees, on the summit of the Khoseea hills, (East Indies) at an elevation of about 4,000 feet.

ARISTOLOCHIA CILIATA, Fring-flowered Aristolochia.

Bot Mag.

NAT. ORD., ARISTOLOCHIEÆ. CLASS, GYNANDRIA HEXANDRIA.

"A native of Buenos Ayres, according to Mr. Tweedie, to whom I am indebted for dried specimens, and who also sent seeds, which, under the judicious care of Mr. Moore, have, at the Glosnevin Botanic Garden, produced the flowering specimens here represented. The very singular structure and colour of these flowers, with the long marginal fringes, render this species particularly worthy of cultivation in the greenhouse, or in a favourable situation, it may be found to bear the open air of our climate." The colour of the flowers is a yellow green, with a purple and green streaked tip. The form of the flowers of this genus is remarkable for their bent tube or pouch-like structure.



ANGELONIA GARDNERIA, Mr. Gardner's Angelonia.

Bot. Mag.

NAT. ORD., SCROPHULARINÆ. CLASS, DIDYNAMIA ANGIOSPERMIA.

The upright stems, opposite serrated leaves, with the terminal spike of large lilac flowers, render this a very desirable plant. It is a native of Brazil, and was transmitted from thence by Mr. Gardner, whose name it bears. The flowers have been produced in the stoves of the Glasgow Botanic Garden. It is, however, by no means improbable, that it might succeed pretty well in the greenhouse. It is an herbaceous plant, rising to the height of two or three feet

PHAIUS WALLICHII, Dr. Wallich's Phaius.

Pax. Mag.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

The present is one of those orchidaceous plant belonging to the section of that curious and interesting family termed terrestrial, the natural habitation of which is on the surface of the earth, and not on the trunks and branches of trees, the peculiar situation preferred by those of this tribe designated epiphytes. The present species would appear to possess more than an ordinary share of beauty; indeed, from the representation given of it, we should say it is a truly splendid plant. We may, probably, be best understood by describing it as bearing a strong resemblance in habit of growth to the old and well-known Bletia tankervillia, common in almost every stove. The flower stems rise in the same way, and the structure of the individual florets are also much like those of the bletia, but far more beautiful, being of a white-rose yellow colour. This is also a native of the Khoseca Hills, whence it was obtained by Mr. Gibson, and is cultivated at Chatsworth, where it has recently flowered.

LELIA ALBIDA, White-flowered Lelia.

Bot. Reg.

NAT. ORD. ORCHIDACES. CLASS GYNANDRIA MONANDRIA.

A very pretty little orchidaceous plant, with short upright flower stems, bearing a few whitish flowers. A native of Oaxaca. It is remarkable for its delightful fragrance, resembling the primrose.

ONCIDIUM TRULLIFERUM, Trowel-lipped Oncidium.

Bot. Reg.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

We have recently spoken in terms of strong commendation of the great beauty of this genus, nor is this the least ornamental of the species; the pseudo-bulbs are nearly six inches long, with leaves about the same length. The flowers are produced on a rather stiff branching stem, and of a yellow and rose colour. A native of Brazil, and imported by Messrs. Loddiges, where it flowered in September, 1838.

AGAVE SAPONARIA, The Soap Aloe.

Bot. Reg.

NAT. ORD. AMARYLIDACEÆ. CLASS HEXANDRIA MONOGYNIA.

The leaves are long, slender, and the flowers are produced on an upright spike, and are of a yellowish-green colour. It is said that Mr. Skinner found this plant used as a substitute for soap in Peru, where it grows on sandy plains. "That it is an agave admits, I think, of no doubt; but, unlike those gigantic species with which we are most familiar, it flowers readily, and does not perish, but continues to grow without suffering; in fact, it is a true perennial, while the others are analogous to annuals." "If this species should furnish a fibre capable of being used by the manufacturer, it will then, like the magney, its near ally, both produce a material from which linen may be woven, and assist in washing it afterwards.

DAUBENYA FULVA, Tawny Daubenya.

Bot. Reg.

NAT. ORD. LILIACEÆ. CLASS HEXANDRIA MONOGYNIA.

A curious plant, having the habit of a hæmanthus, with short oval lightgreen upright leaves, bearing a short umble of orange coloured flowers. This plant is a native of the Cape of Good Hope, imported from thence by Robert Barchard, Esq. of East Hill, Handsworth, in whose garden it was observed in flower by Professor Royal. In a botanical point of view, this is a highly interesting plant, from the circumstance as quoted below. "Certainly lilacese has been hitherto regarded as one of the most regular flowered of orders; and yet, here is a case in which irregularity in the flower is carried almost as far as a suppression of the floral segments. It will, doubtless, be found, whenever the limitation of natural orders is reduced to any principle, and ceases to be arbitrary, that every large order contains irregular and regular flowered genera, and that the greatest value that can be assigned to such a circumstance is, that of characterizing some division of the order."

The individual flore's of this plant present the singular appearance, as if the half of each floret were cut away: three of the stamens being about half the length of the other three, and seen adhering to the abortive segments, about midway of the rather lengthened tube. In other respects, this plant presents nothing attractive to the florist.

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

CODONOPSIS LURIDA.

A footid twining milky annual, with large green flowers, slightly dotted inside. It is a native of India. As a campanulaceous plant, it is closely allied to Canarina, but has none of its beauty.

SALVIA MOORCROFTIANA.

This plant has been raised in the garden of the Horticultural Society of London, from seeds sent from India, by Dr. Falconer. It proves a herbaceous species, resembling S. Sclares, with very large leaves, cordate at the base, woolly underneath, and pale light blue flowers, about one-half the size of that species.

CINOGLOSSUM GLOCHIDIATUM.

Raised from Indian seeds, transmitted to the Horticultural Society of London, by Dr. Falconer. A herbaceous plant with intense blue flowers, well suited to gather for ornamenting sitting rooms.

APLOTAXIS ALBESCENS.

A rather pretty herbaceous plant, about four feet high, with purple flowers.

MALVA LUCIDA.

A Himalayan plant, apparently annual, resembling Malva sylvestris-

STANHOPEA OCULATA.

This is a remarkable variety of S. oculata, obtained from Mexico by Mr. Barker. It looks like S. insignis, with the lip of S. oculata, and is very handsome.

PORTULACA GRANDIFLORA, VAR. RUTILA.

A native of Mendoza. The flowers are of the richest crimson, more bright than even P. Gilliesii, and nearly as large as a half crown, when full blown. It is at present in the Horticultural Gardens, London.

STENOCHILUS LONGIFOLIUS.

A New Holland plant, first discovered there by Allan Cunningham, and lately by Major Sir Thos Mitchell, by whose attendants, it was called "Lemon Haws," on account of the odour of the fleshy fruit. It forms a small bush, and in this country flowers in August. The leaves are narrow and coriaceous. The flowers are about an inch long, single or in pairs.

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STENOCHILUS INCANUS.

The London Horticultural Society is indebted to the last mentioned gentleman for the possesion of this plant. It is a native of the same country with the last, and forms a gray bush, looking like an olive or some leafless accasis, and is covered closely with short white down.

ASTERACANTHA LONGIFOLIA.

Sent to the London Horticultural Garden by Mr. M'Culloch, one of the head gardeners to his Highness the Pacha of Egypt. It forms a bright, rich, green bushy plant, with rough haised lanceolate opposite amplexicauled leaves. From the axils of which, whorls of gay blue labiate flowers are produced.

CIRRHOPETALUM NUTANS.

A pretty little air plant, sent to Messrs. Loddiges, from Manilla, by Mr. Cumming; it has a nodding umble of pale straw-coloured flowers, at the end of weak flower stalks, about six inches high. The species is very near C. Wallichii, a Nepalese plant.

CHIRRHOPETALUM FIMBRIATUM.

A pretty species of this carious genus, with the long lower green sepals united into a stiff strap, while the upper sepal and petals are broken up at the margin into beautiful purple fringes. Imported from Bombay by Messra Loddiges.

CIRRHÆA SACCATA.

This has been sent to Woburn Abbey, the seat of his Grace the Duke of Bedford. It has all the appearance of the other species, but its moreme is nearly a foot long, and the dull yellow green flowers are nearly twice as large as those of any before discovered.

CYTISUS WELDENII.

A plant nearly allied to C. laburnum or C. alpinus, but has not yet produced flowers. It is well known that the seeds of Laburnum are poisonous, fatal accidents having occurred to children who have incautiously eaten them. C. Weldenii appears to possess this deleterious quality in a more concentrated state.

NEPETA SALVIÆFOLIA.

This is a Himalayan labiate plant, which flowered in the London Horticultural Society's Garden, raised from seeds received from the East India Company. It is a percential of little beauty, with white flowers.

IPOMÆA LONGIFOLIA.

"Of all the flowers yet received from Mr. Hartweg, by the Horticultural Society, this is one of the fluest. The stems are erect, not twining, and the flowers grow singly in the axils of the long entire gray leaves. The corolla is white, with a delicate noyeau smell, and is as large as that of Calonyction bona nox. It is a percennial, with a fleshy tuber-like root, and has lately blossomed in the Society's Garden. It will probably do very well out of doors, but will require such protection as is given to the dahlia in winter."

SOLANUM CANDIDUM.

This is a plant from Mex.co, and in the collection of George Barker, Eq., in whose stove it has produced pure white flowers. The leaves are a foot long, and nine inches broad.



REVIEW AND MISCELLANIES.

Floral Calender.—Monthly and daily, with miscellaneous details relative to plants and flowers, gardens and greenhouses, horticulture and botans, aviaries, &c. Compiled, selected, and arranged by James Mangles, Commander, R. N.

The Floral Calender has been kindly sent us by our respected friend T. M. It is printed for private distribution, and contains much that is both interesting and instructive on the various heads on which it treats. It has also many coloured and some gilt engravings, and is, therefore, got up in the most complete and expensive style. The engravings are chiefly designed to show the effect of plants in windows, belconies, vases, boxes, &c., also plans for flower gardens, elevations of dwelling houses, conservatories, &c. As a specimen of this useful little manual, we select the following on the rhododendron, and fully subscribe to all that is said in commendation of the genus :-- "Those who are fond of having plants in their windows, are often disappointed in their wishes, by the want of a little knowledge and a little care; for though the plants which they purchase appear in fine condition when purchased, they frequently begin to fall off at the very time when they ought to come into full flower; one obvious cause of this is the different circumstances they are placed under by the purchaser, to what they had been when in possession of the nurseryman, and still more, the very different management to which they are subjected. In purchasing flowers in pots, it is important to recollect, that by far the greater number of them have been ferced into a premature display of their beauties by artificial heat and shelter, which renders them full of sap and tender, from the branches and shoots not being ripened; the colour of their leaves is of a peculiar shade of green, which, from the abundance of their juices, appears not unhealthy; but though it may appear fresh, it is much paler than plants which have grown in the open air, and exposed to the variations of the weather. Another important circumstance is, that the nurseryman's greenhouse always has light perpendicular, as well as on both sides, so that his plants grow upright, and send out branches on all sides, forming what is termed a well balanced head. Now, when a plant which has been thus reared is transferred to the inside of a room window, or to a flower stand in a sitting room, it is at once deprived of its customary perpendicular light from the roof of the greenhouse, as well as two, if not three, of its side lights; that is, it only receives light on one side, to which it will soon bend, till its upright growth is speiled, and the balance of the head is destroyed by the branches receiving the front light, far outgrowing those which are behind them; when this is first observed, the bending of the plant is attempted to be corrected by turning the back part to the front; but this, so far from answering the purpose, not only gives the branches unsightly curves and twists, but greatly weakens the whole plant. It is much better to let the tendency of the boughs to the light operate always in the same direction, till the whole assume the spread fan-like position, which is the only natural one for window plants having no perpendicular light, it being impossible in such cases to grow plants with well-balanced heads. It is also very important on parchasing plants in pots, at first not to expose them out of doors, either all night or to bright sunshine; the cold of our nights, even far in the summer, will often injure, if it do not kill plants not gradually inured to it, while the bright sunlight of a summen's day will often wither or kill plants which have previously had only the tempered light of a granhouse. With respect to watering, in cool moist weather, it is very generally over done, and the plants are rendered dropsical and sickly, by having the mould always scaking wet; whereas, in dry summer weather, they are as generally under-watered-for in such weather, the effects of one watering, particularly in small pots, and more so when these are new and porous, will disappear in a few hours; many plants, in such circumstances, would require to be watered at least twice, if not thrice a day, the greatest care ought always to be taken to have the pots so drained with broken potsherds, as that no water may stagnate, and, for this reason, all pans with standing water in them should be prohibited."

SCOTCE-SUGAR—BEET-ROOT SUGAR.—The Aberdeen Constitutional states, that one of its correspondents has sent a sample of sugar, made at Macduff from beet root grown in Banffishire. It is retailed in London at 8d. per lb. The quantity is about a ton; but the manufacturer says, that next season he will be able to supply any quantity. The sugar is well granulated, very dry, free from smell, particularly white, and tastes like sugar candy.

ROBES AT CHRISTMAS.—To obtain which, select from your varieties such bads as are just ready to bloom, tie a piece of thread round the stalk of each, taking care not to touch the bud with your hand, or even the stalk more than you can avoid. Cut it carefully from the tree with the stalk, two or three inches in length. Melt some sealing wax, and quickly apply it to the end of the stalk; the wax should only be sufficiently warm as to be ductile. Form pieces of paper into a cone-like shape, wherein place each rose separately, and screw it up carefully so as to exclude the air; they may then all be placed in a box or drawer, which will keep them from the air. On Christmas-day, or any other, take them out, cut off the ends of the stalks, and place them in a flower-pot with luke-warm water; in two or three hours they will bloom as in summer, retaining all their delightful fragrance.

MR. GARDENER. BOTANICAL COLLECTOR IN BRAZIL.-My great wish was to reach the magnificent falls nearly two hundred miles nearer the source of the river, sixty miles of which must be travelled over land; every one dissuaded me from the attempt, particularly at this season, when the ground is so much burned up that it is impossible to find grass and water for horses. Still I was determined to proceed, and hired a canoe to convey me as far as the stream was navigable; and just as we had reached this point, one hundred miles up, close to the Ilha Sanpedro, a large island in the river, a tremendous storm overtook us in the middle of the stream. Such a hurricane I never before witnessed. Before we could reach the lee side of the river, which was more than a league broad, our canoe had nearly upset, and would certainly have done so, when we must all have been drowned, but for the exertions of my black servant and myself, for the crew were so terrified as to lose all presence of mind, and they gave no assistance, and the night was dark, the river broad, and the current strong; the thunder and lightning and rain exceeded all I could imagine; drenched to the skin we reached the shore, and remained till day-break in our wet clothes, and the consequence to me was a severe attack of dysentery. For several days there was no prospect of my recovery, and more than once I attempted to write what I considered would be my last letters, to Sir W. J. Hooker, and another friend, when my disease took a favourable turn, and I soon recovered sufficient strength to return to the Villa de Penedo, where my kind friend, the Juiz, gave me a most welcome reception. His attentions accelerated my amendment, and I soon began to make considerable collections in the neighbourhood. In going up the river, I had obtained many valuable things, chiefly Leguminose and Loranthacese; and on the Ilha Sanpedro, where I remained during my illness, there were a great variety of fine Cacti, of which, spite of my great debility, I brought away three large cases. Some of the species attain a height of nearly thirty feet, and have stems three feet in circumference. A beautiful Melocactus particularly attracted my attention, and I trust the plants of it that I collected, will do well. Many of the Cacti are, no doubt, new. I only found two species of Orchiden. The island is chiefly inhabited by civilized Indians. It is my intention to take these collections to Pernambuco, and ship them from thence.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XLIII.-DECEMBER, 1839.

ORIGINAL COMMUNICATIONS.

ON THE HISTORY, CULTURE, &c. OF THE VINE.

BY THE EDITOR.

At page 95 of this volume, we were led to make some remarks relative to the vine, and also promised that we should again recur to the subject; we shall, therefore, take this opportunity of redeeming our pledge. That it may not be again necessary to enter largely upon this subject, it will be proper to notice whatever appears of importance in the culture of the vine, and continuing our remarks, generally or particularly, as the various stages of the subject may require. From time immemorial, the grape vine has been an object of interest with cultivators; and, at the present day, it occupies more of the attention of those amateurs whose time and circumstances permit them to cultivate tender fruit, than any other kind whatever. In cases where a few square yards only of glass roof is erected, the vine is certain to be one of the first inmates of the structure. In hot-houses, and in favourable situations on open walls, with south aspects, the culture of the vine may be said to be universal. Such being the case, it is hoped the following remarks will neither be useless nor uninteresting. Its antiquity is at least coeval with that of the apple and the fig. By the Scripture history of the vine, we are reminded of Noah's success as a grape grower immediately after the Deluge, and hence it may be inferred that its culture had been understood by those who lived prior to that event. Solomon had a vineyard at Baalhamon, for which he received annually one thousand pieces of silver. The art of raising vines from seed was also known, for we find Moses giving particular instructions how to perform this operation. He tells the Israelites not to sow

their "vineyards with divers seeds, lest the seed which thou hast sown, and the fruit of thy vineyard, be defiled." Those who know any thing of the process of raising fruit bearing plants from seed, will be struck with the soundness of these practical remarks. The Grecians ascribe the invention of wine to Bacchus, whom they elevated to the rank of a Deity as a reward for his discovery. appears, from Roman history, that young men under thirty years of age were not allowed to drink wine, and women were not, at any time, allowed to use it. It is also related of Egnatius Macennius that he killed his own wife for having caught her drinking wine. It is also stated that a Roman lady was starved to death, by her own relations, for opening a cupboard which contained the keys of the wine cellar. For the introduction of the vine into Britain, we are indebted to the Romans; but at what particular period, is not so certainly known, although it is generally supposed to have been shortly after the Christian era. It is an interesting fact, not easily explained, that about the time to which we refer, grapes were successfully cultivated, in open vineyards, in various parts of this island. The sloping walls at Belvoir Castle supply the first instance by which artificial means were applied for inducing the early ripening of the grape. These were erected by the Duke of Rutland in 1718, and afterwards covered with glass; and this may be considered the first grape house in England. At the present day, the most remarkable vincs are those at Cumberland Lodge, near Windsor, and at Valentine's, in Essex; but especially the wonderful vine in the Royal gardens at Hampton Court, which. on an average, produces nearly two thousand pounds weight of fruit annually. This vine is thought to be about a hundred years old, and covers about 116 square yards of wall, extending, in one direction, 114 feet from the stem.

As will readily be supposed, from the circumstance that the vine has been cultivated during so long a period, the varieties have been greatly multiplied. The following varieties are, however, such as long experience have proved to be valuable and well-approved sorts; and as there is much difficulty and confusion in the nomenclature of cultivated fruits, we shall also add a few of the synonyms to each.

^{1.} Black Frontignan, (Syn. Blue Frontignan, Violet Frontignan, Purple Frontignan).—Bunches small, berries of the medium size, covered with a

blue violet bloom: Of a musky flavour. This is a good vinery grape, and is sometimes ripened on a south wall.

2. Black Tripoli -- Bunches medium size; berries large, and of a dark purple or black colour. Highly flavoured, but requires a high temperature.

3. Black Hamburgh, (Syn. Warner's Black Hamburgh, Warner's Red Hamburgh, Black Gibraltar, Frankenthal, Frankendale, Black Portugal, Black Lisbon.)-This grape is so well known as not to require minute description. Its well formed, compact, and shouldered bunches of black round berries generally ripen, whether in a high or a low temperature. flavour is good, is a certain bearer, and may be kept in good condition on the vines long after the leaves have fallen off. For early forcing this grape is unequalled.

4. Black Lombardy, (Syn. West's St. Peter). - This is the grape so frequently alluded to and so strongly recommended by Mr. Oldacre, for late forcing and for keeping through the winter months. It requires a strong heat to

ripen it and flavour it properly.

5. Black Cluster, (Syn. Burgundy, Black Burgundy, Small Black Clusters, Early Black True Burgundy, Black Orleans).—This is a superior grape, of small growth, and, therefore, well calculated for growing in pots, or in small structures, such as pits or small vineries where room is limited. It is also one of the best for open walls, and in favourable situations bears large crops. The berries are small, and of a dark purple or black colour.

6. Black Muscadine, (Syn. Black Chasselas Noir) .- The berries are round, and bunches of a medium size, of a bluish colour, and highly flavoured. This forces tolerably well; it also succeeds upon the open wall, with a south

- 7. Bluck Prince, (Syn Sir Abraham Pytche's Black Grape).—This is not included in the lists and notices of early writers, and was probably brought into notice by the late Wm. Malcolm, of the Kensington Nursery, who found it in the garden of the gentleman whose name it bears. It is an excellent grape either for the pine stove or common vinery. It is highly flavoured, and bears freely.
- 8. Esperion, (Syn. Turner's Black, Hardy Blue Windsor) First brought into notice by the late Mr. Aiton, who, in 1804, planted it in most of the Royal Gardens. This is one of the best hardy grapes, in ordinary seasons, ripening well on walls, with south aspects. The bunches resemble the Black Hamburgh.
- 9. Black Damascus, (Syn. Worksop Manor Grape.)-The bunches and berries are large, of a rich black colour; they do not set well. It requires

the temperature of the stove.

10. Black Morocco. (Syn. Ansley's Large Oval Black. Rhodes's Horsforth

Seedling. Raisin d'Espagne.)—This is only a second class fruit.

11. Grizzly Frontignan, (Syn. Muscat Gris Grizzly Frontignac).-This well known variety cannot be brought to maturity, otherwise than in a high temperature, but when so treated, it is one of the richest of all grapes. berries and bunches are small, and the latter are without shoulders.

12. Red Muscat of Alexandria, (Syn. Red Muscat of Jerusalem, Red Frontignan of Jerusalem.)-Requires the temperature of the stove to bring it to

perfection. The berries are large, and of a musky and high flavour.

13. Royal Muscadine, (Syn. White Muscadine Chasselas, Chasselas Blanc.) This is a good early grape.

14. White Muscadine, (Syn. Common Muscadine, Early White Grape of Teneriffe, Chasselas de Fontainbleau, Malmsey Muscadine.)-Like the last,

this is a good early grape.

15. Syrian. The flavour of this is not equal to many of those already noticed. It attains, however, a very large size, and on this account and when ripened in a high temperature, the flavour is very good. In 1781, Mr. Speechly produced a bunch of this grape, which weighed nearly 20lb., and measured twenty inches across the shoulders, and twenty one in length. This is supposed to be the grape mentioned in the Book of Numbers, as having teen brought by the two spies from the promised land.

16. White Frontignan, (Syn. Muscat Blanc White Frontignac.)-This is

one of the best grapes in cultivation, and is adapted nearly equally well for

pine stoves, vineries, or hot walls.

17. White Muscat of Alexandria, (Sym. Jerusalem Muscat Malaga, Passa-Musque, Frontignac of Alexandria, Tottenham Park Muscat, Escholata Candia.)—There is also the Cannon Hall, well worth growing. This is universally acknowledged to be one of the best grapes in cultivation, but cannot be brought to maturity without a high temperature. None assumes a greater variety of form and appearance than this grape, and many of the names applied to supposed varieties, originate from local causes, such as soil, climate, treatment and the like. The Cannon Hall is one of the finest of these; a seminal sub variety. It is difficult to cultivate successfully, the berries being very liable to damp off when about half grown. It requires a high temperature, and ought to be sparingly syringed at the stage of growth alluded to. When properly managed, this is decidedly the finest and largest white grape we know. We have noticed it in the vineries at Chatsworth during the last several years, and have nowhere seen it treated with equal success. None of the varieties of this grape should be cut or considered rips, until they have become quite yellow, and begun to shrivel.

18. White Storet Water, (Sym. Dutch Sweet Water, Stillward's Sweet Water, Parel Druyf of the Dutch Gardens.)—One of the best grapes for early forcing, being an abundant and sure bearer in any situation. For very early

forcing, there is none equal to this and the Black Hamburgh.

19. White Nice.—Bears a large bunch, and a large round berry, of a green tinge until quite ripe, it then becomes yellow. When grown in a high temperature, the flavour is good, but not at all equal to the Muscat.

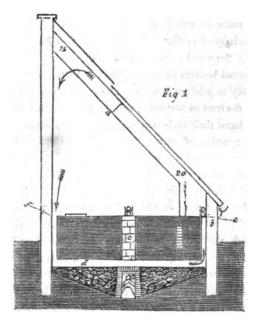
Were we to give a summary of those we think decidedly the best for general cultivation, the following are what we should recommend, taking them in the rotation in which they stand:—

White Muscat of Alexandria, Black Hamburgh, White and Grizzly Frontignan, Black Prince, Black Lombardy Esperion, Black Damascus, Black Morocco, and Black Frontignan.

Construction of Vinery.—It will now be our purpose to say a few words relative to the kind of structure suited to the growth of the grape, more especially at an early season of the year, presuming that whatever kind of house is found congenial to its growth at that period, would not be less so when the season was more advanced. We would not be understood as wishing to attach much importance to a few degrees, variation more or less, than an angle of forty-five degrees for the roof of the vinery. As it is found in practice, that this is a medium, in many respects the best; supposing the forcing of the vines to commence about the beginning of February. The length, width, and height of the house, are questions which can only be determined by the quantity of grapes required; but as it may be some guide to those who have to decide on this point, we may state, that supposing the house to be twelve feet wide, and taking the length of the bearing vines at fifteen feet, measuring from the roof upwards, there ought to be produced from every three and half feet of the length of the house,

about thirty bunches of the fruit, weighing at an average three quarters of a pound each. In cases where the vines are worn out or only recently planted, this quantity of fruit cannot be expected, although, when vines are established and vigorous, they are often allowed to bear a much greater weight than we have stated.

With reference to the vinery itself, (Fig. 1), we should recom-



mend the width to be twelve feet, with the roof at an angle of forty-five degrees. The trellis (a) nearly parallel with the roof, being fifteen inches from the glass at the upper end, and twenty inches below.

Border.—This is an important part of the arrangement, and when complete success is desired, great attention should be paid to its formation. What rather lengthened experience has taught us, we shall endeavour to describe. The front wall (b) should be built upon piers, eighteen inches higher than the surface of the natural ground. The distance from pier to pier, ought to be regulated by the width of the glass frames of the roof, so as to have a pier under each rafter. The spaces betwixt these piers should at first be built up, for reasons which shall presently be given. In the centre of the

house, a wall must be raised, as shown at (c) and this must also be formed into piers in like manner with the front, and of the same height. On this, the flue, or hot water pipe, is to be placed; and, like the front, the spaces betwixt the piers must also be built up. The space between the front wall (b), and centre wall (c). is now to form the whole extent of border in which the vines are to be planted, being about five feet and a half in width. It is a fact, that has been repeatedly forced upon our attention, that vines, the roots of which were confined in a very limited space, matured their wood earlier and better, and also bore heavier and more highly flavoured crops of fruit, than such as were planted in deep and broad borders of rich compost. In the latter case, there is a tendency to produce luxuriant shoots, so gross and thick, that they ripen the fruit imperfectly; and the result is, that the following year, they burst their buds very regularly, many refuse to push at all, and, as a matter of course, the crop is a failure. But in cases like those first alluded to, where the roots are confined, and the nourishment scarce, the feeders, or spongeoles of the roots, are greatly multiplied by being planted in poor soil.

It is a law of nature, to which there are but few exceptions, for the roots of plants to multiply in proportion to the sterility of the soil in which they grow, and by this means the plant is supplied with aliment through a greater number of agents: the aliment itself is purer, if we may so speak, more conducive to the production of flower buds than to the elongation of the shoots. We have often observed, and indeed the circumstance has been many times referred to by others, and referred to more as an instance of unusual occurrence than as one resulting from a natural cause;namely, the quantity and excellent quality of grapes produced on shoots remarkable for their smallness. It will not be supposed from this that it is intended to imply that small wood is the only requisite for ensuring abundant crops of superior fruit. In this, as in every thing else, a medium is the safer course to follow. There is, however, scarcely any fact of which we are more fully convinced, than the absurdity of submitting the roots of young fruit-bearing plants to large masses of highly stimulating and rich earth. Examples of this are often to be seen in young peach trees, plums, pears, &c., when planted in rich borders. It is true they grow with monstrous vigour, and soon cover the wall,

but this is small compensation for the gross, distorted, and diseased habit which often remains with the plant through all its after life. We would, therefore, recommend that the border in question be confined within the two walls (b.) and (c.), and raised fifteen or eighteen inches above the natural surface of the ground without. If the subsoil be at all wet, it should be well drained, and the bottom of the border filled to the depth of six or nine inches with stones, over which turf should be laid. This will prevent the smaller particles of the earth mixing with the stones, and thereby affording free escapement for the superfluous moisture.

Border-earth.—This should be a mixture of yellow, sandy loam aud road-scrapings, mixed with well-decomposed manure. It ought to lay for several months in an open exposed situation, and be frequently turned. The loam should be from an old pasture, and six or nine inches of the turf only ought to be taken. Horn shavings and bone-dust are excellent stimulants, and are valuable as such in starting the young plants. The depth of the border ought not to exceed three feet, nor be less than two. Supposing there is one vine planted to each rafter, this number will be requisite at first, while the plants are young; but after the fourth or fifth year, each alternate vine may be removed. In planting the vines, it is desirable, in order to guard against the sinking of the border, to put the plants into the ground with the stems slanting, so that they may be moved about with greater safety. As the quantity of earth which the border contains is but small, it may be proper, after six or seven years, to remove the intervening spaces between the piers now built with brick, an additional border prepared, and the roots allowed to extend. This may be done, if it is found necessary; but we have no doubt that they may be made to bear abundant crops of fruit for twenty years, without any addition of border room. At the proper season liquid manure may be applied, with an occasional top dressing of fresh loam and bonedust. By this treatment, finer fruit and more abundant crops may be obtained than by stimulating the vines in a border of rich and deep earth.

Heating.—Some of the numerous modes of applying hot water are the safest and cleanliest. They are the safest, because there is no risk of injury from the escape of impure gasses from the hot flue;—and the cleanliest, because there is neither smoke, soot,

nor any annoyance whatever in the sweeping of the fire flue. The best boiler we have seen is that manufactured by Mr. Bradwell, of York, and figured at page 111 of this volume.

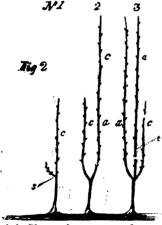
We would strongly recommend that small drains, as shores, at (d.) be formed under the border at short intervals along the length of the house, say five or six feet. They ought to be so formed as to contain no water, and by passing under the border with one end rising immediately under the hot-water pipe (e), and the other close to the back wall (f), it is found, that by this arrangement a circulation of air is created within the house, of great service to the vines. culation continues only during the night, and at other times when there is no ventilation. The circulation is caused by the air in the vicinity of the front pipe (e), warming the surrounding atmosphere, which becoming rarified, ascends upwards, and a supply arises from the shaft or drain (d). The ascending air passes from the pipe in front, and as the particles cool, by contact with the cold surface of the house, they descend especially from the back wall, and enter the shaft at (f) and ascend at (e), and travels upwards till it reaches the tops of the houses, and again descends by the back wall. A current of air is thus in continual motion, exactly on the same principle as hot water circulates in pipes, and on the same principle which produces winds and currents of air in the ordinary atmosphere; that is, by one part of the earth being more rarified than another, and by the air, thus heated, passing upwards: hence the currents which we feel rushing forward to supply its place. In the early forcing of melons, encumbers, kidney beans, strawberries, and, indeed, the growth of all kinds of plants which it is requisite to excite at an early period of the year, may, by a proper application of this principle, be benefitted far beyond any thing that can at present be conceived. In dull, cloudy weather in winter, when air cannot be obtained without great less of heat, a continual change of air may be kept up by this plan, without opening the sashes; hence the economy of fuel. Without reference to circulation, to economy, or any of the advantages previously noticed, the various air shafts or drains (d) would be of great benefit to the border and the roots of the vines. The circulation of air, in any form, would excite and stimulate the rects of the plants, but this would be more especially the case by the air being slightly warmed.

Age and Size suitable for Planting .- Vines are not unlike willows in their habits, and seldom fail to form roots, wherever they come in contact with the earth. This being the case, and, where circumstances render it at all desirable, there cannot be a doubt of the plants succeeding, they may, therefore, be planted at any age. In the formation of new vineries, every alternate plant might be of five, six, or more years' growth: if such could be obtained, these would bear abundantly the second year, while the younger and permanent plants were being established, and properly treated for The permanent plants are raised from future service. eyes, and of three years' growth. The most suitable season for planting is any time in March: previous to this the plants should be cut down to three eyes. This should be performed during the early part of the winter. In the process of planting, the whole of the earth ought to be shaken from the then to be carefully separated and roots: they ought straightened, and laid nearly on the surface, and then covered with earth, forming a slight mound over them. the event of the border settling, this will prevent the necessity of covering the roots too deep. The stems should also be laid at an acute angle with the surface of the ground as already In planting the vine, some have recommended that the plants should be excited into growth early in the season. and then planted, while in a state of vigorous growth. We decidedly disapprove of this practice, for the following reason. Plants designed to be permanent ought to have the whole of their roots carefully separated and straightened, otherwise they cannot strike out and grow freely, and if, while in a growing state, the earth be shaken from the roots, which must be the case in performing this operation, a severe check is given to the plants, such as will very much retard their growth during the first season.

Pruning.—This is a simple but essential and important operation, of which there are many varieties, all possessing more or less of merit; but for the vinery, where the culture of the grape is the principal object, the mode of pruning, usually designated the long succession mode, is in many respects the best, and may be described as follows:—The plants which are supposed to be raised from single eyes, as being much the best, are forwarded in pots for two years, and planted out the following spring. The

first year one shoot is trained rather more than half way up the trellis, and this is allowed to bear fruit the following year; the second shoot (s.) is allowed to grow from the lowest bud six or nine inches, it is then stopped. The spring of the second year the leading shoot (c.), which is half way up the trellis, is allowed to push from the extremity until it reaches the top of the house, and this shoot (c.) forms the bearing wood for the following year; a shoot is also allowed to grow from the lower shoot (s.) half way up the trellis, so that there is now, being the end of the second year, two shoots of bearing, would, for the third year, forming a continuous line from the bottom to the top of the house, and, by following out this arrangement, it will be readily perceived that a succession of shoots may be secured to an indefinate period.

The annexed engraving will more clearly convey our idea:



- No. 1. represents the growth of the vine at the end of the first year after pruning.
- 2. The end of the second year.
- 3. The end of the third year.
- (a.) Represents the bearing wood of the same year.
- (c.) The young wood of the same year, and which will, of course, form the bearing wood of the following year.

(t.) Shows the process of pruning; the whole of shoot t. must be pruned away at the end of the third year, and this must be repeated annually.

EDITOR.

REMARKS ON CACTI.

BY ECHINUS.

ECHINOCACTUS.

Next in importance and interest to the section "Mammillaria" is that of Echinocactus, the varieties of which are numerous, and

in many instances extremely beautiful. The characteristic marks of the Echinocactus are by no means so accurately defined as those of the Mammillaria; but a great confusion exists between the varieties of this division and those of the section Cereus. When the distinctive appellation of "Echinocactus" was first adopted, it was applied to a few of the strong bristly round varieties, having their bundles of spines in regular lines on the surface of the angular ribs of the plant. And at that period it was no difficult matter to distinguish them from the varieties of Cereus, which generally assume a spiral elongated form. But gradually the limits of both sections have been so enlarged, that at present no little difficulty is felt in arranging the different varieties under their proper heads.

Hitherto the form of the corolla has been the test by which the sectional position of a species has been determined, the species producing flowers with a long tubular corolla being ranged under the section Cereus; while those producing flowers with a short corolla, just raising the petals above the spines of the plant, have been assigned to the section Echinocactus. This system has, however, involved us in some absurdities; for while some of the melon-shaped kinds have produced corollas entitling them to rank as Cerei, others of the spiral or elongated varieties have produced corollas which, by the said rule, assign them to the Echinocacti. Thus, for instance, the plant known as Cereus senilis has proved, by a recent importation of dried flowering specimens, to be an Echinocactus, although its form and habit would seem to rank it rather among the spiral than the hedgehog tribes. However, with all the confusion existent in this section, some of the most beautiful of the Cactaceous tribes are ranged in its ranks. be remarked of the Echinocacti, that they almost invariably produce their flowers from the crown of the plant. The colour of the flower is generally yellow, white, or a kind of pinkish French white. The flower closes in the evening and re-opens in the morning, lasting for a considerable period of time.

Some of the Echinocacti, as Ottonis, Lintrii, Eyrœsii, Turbinatus, Concinus, Scopa, Scopa spinis albis, &c. are, like the Mammillarias, of free growth and easy culture; but by far the greater proportion of the section are extremely difficult to manage. This is, no doubt, owing, in a great degree, to the uncommon

hardness of the outer skin or rind, which, especially in imported plants, is so tough as to resist oftentimes for years the skill of the cultivator, assisted by the application of heat and moisture. But, although somewhat less manageable than the Mammillaria, the varieties of Echinocactus reward the patience and diligence of the cultivator, by throwing out spines which, for size, strength, variety, and singularity of form and texture, are quite unrivalled.

Many of the most beautiful of the Echinocacti are natives of the elevated plains of Mexico; others of the family are, however, found in various positions throughout the entire extent of South America, sometimes amid the burning sands of the sea coast, and frequently on the sides of mountains and other cool elevated spots. Some interesting varieties, as Mammulosus, Mammulosus minor, and rubra, Erinaceus, &c. have been recently imported from Monte Video; and although the varieties already in cultivation extend, we believe, to above sixty, without doubt a great many yet remain in unfrequented localities, which will yet reward the search of the enterprising collector, and enrich the collections of our Amateurs in this country.

Two magnificent specimens of Echinocactus exist in this country, one in the celebrated collection of the Duke of Bedford, and which was imported by the late Duke at an enormous cost from Mexico; the other in the no less celebrated collection of Mr. Charles Palmer, of Shacklewell, whose collection of cactaceous plants stands quite unrivalled in point of the beauty of their growth and the richness of their spines, and in point of variety will scarcely yield the palm even to the noble collection to which we have above referred. We purpose in a future notice, to give some particulars respecting these noble specimens, as well as to offer some general hints upon the cultivation of this interesting but difficult section.

BY AN AMATEUR.

As the Floricultural Magazine is, no doubt, read by many, who like myself, avail themselves of occasional opportunities which occur from time to time of visiting neighbouring gardens, and of obtaining slips or cuttings for the purpose of adding novelty to the

ON A METHOD OF RESTORING VEGETABLES TO LIFE AFTER THEY HAVE BECOME SHRIVELLED AND DRY.

ernamental department of the garden. It also, no doubt, happens with others as with myself, that in making a gardening tour of several days, or it may be a week, the various slips obtained during this time are under the best management and care to preserve them fresh, liable to become so shrivelled and dry, that they are quite injured, and in the majority of cases, after arriving at home, they fail to strike root when planted in sand, or otherwise placed in cutting pots. To obviate this difficulty, and restore the slips to life and freshness, I have adopted the following method, which, in most cases, has proved effectual. After having carried alips of plants about with me for four or five days, and when they had become, to all appearance, shrivelled and lifeless, I have immersed them in a solution of dissolved camphor and water; three or four hours is in general sufficient length of time to effect restoration: but I have sometimes found it attended with beneficial results, to continue them in the water for a greater length of time. The effects produced by this application is quite astonishing to those who have not tried it or had an opportunity of observing it. It may also be applied with excellent effect in restoring nosegays which have begun to decay, either by sprinkling the foliage or immersion, and also by placing the ends of the stalks in the water.

To prepare this liquid, it is only necessary to dissolve a little camphor in spirit or alcohol. Three or four drops of this prepared liquid is added to an ounce of water, and to any greater quantity in the same proportion.

As this simple experiment is attended with so little trouble in preparing it and making the trial, I hope it may be found useful; and it may be, that some experimentalist will apply it to purposes even more important and useful than this.

[As the giving or receiving of cuttings of plants may be right or wrong according to circumstances, therefore, whatever commercial gardeners and nurserymen may say, or however much they may choose to complain of the practice, it is quite evident that their complaints will effect no change in the practice itself. So long as there is a taste for the possession and cultivation of plants, so long will this system of barter continue. Indeed, while we would not for a moment defend the practice, on the ground that it is never abused and made to operate injuriously to nurserymen, we are fully convinced, that they owe more to this very system, of which they complain, than any other cause whatever, in creating a demand for plants.

Several instances fully proving this fact, have come under our own

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knowledge. In one case where the family were as indifferent to plants, and flowers of every kind as it is possible to conceive, and the gardener, who like his employers, saw nothing in plants worthy of his attention, availed himself of none of the numerous opportunities which fall in the way of every gardener to introduce to the notice of his employers showy flowers. In the course of time, however, his situation became vacant, and it was filled by one who was as much interested in plants and showy flowers as the other was indifferent to them. At this place there was neither greenhouse nor glass structure of any kind scarcely a bed or flower border in which to grow even a few annuals or showy herbaceous plants. Notwithstanding all this, the gardener persevered, and the few cuttings and plants which he obtained from his friends, grew up and bloomed; and his kind employers, whether in consideration for his feelings and to show that they were not indifferent to the desire which he manifested to please and gratify them, or whether they were in reality greatly delighted with the beauty of the plants themselves, is matter of but little importance. The result has proved to be that which in the majority of cases all such experiments will ever produce. And the family are now interested in showy and beautiful plants, and derive as much pleasure and see as many beauties in them as the veriest amateur could desire. As a reward for the gardener's industry, taste, and care, he has not only now obtained an elegant greenhouse and flower garden, where he cultivates many choice plants, purchased by the proprietor, but has had a gratuitous addition [made to his salary, and above all, he is regarded by the family as of importance and value to the comfort of the whole establishment.

We have been somewhat particular in the relation of this affair, because long experience has taught us to believe that it is precisely what every gardoner may do if he please; that is, when the circumstances of the owner will admit of it. As there is, however, a possibility that we may be misunderstood with regard to the giving and receiving in exchange plants, cuttings, &c. it may, therefore, be right to state here, that in cases like that which we have now described, we think it not only not improper but commendable. The end fully justifies the means. We can scarcely suppose such a thing as a family, or even an individual, acquiring a love for plants otherwise than being led on by a process like that noticed above. We, therefore, think it quite proper, and not only proper but benevolent, to promote and encourage a taste for enjoyments so conducive to feelings favourable alike both to morals and religion. Thus much, we believe to be right; but the wholesale system of exchange, adopted as the only mode for the maintenance of private collections, appears to be very questionable, at least, when tried by the principle of equity and honour. There is, however, perhaps, no other means of meeting the evil than by appealing to what ought to be the honourable feelings of the parties concerned.

There are establishments, both public and private, where surplus plants are sold. From these, however, nurserymen have but little to fear; that is, if the rules of economy are properly followed up in such establishments. First, because in such cases, the very act of selling implies either poverty, or a perversion of the purposes of the establishment itself; but more frequently it is an alternative resorted to with the view of adding to the requisite funds. Now were it possible to suppose that plants sprung up spontaneously, and arrived at a state fit

for market without any expenditure in labour, then there would clearly be an advantage and profit in disposing of them; or were it absolutely necessary to rear a large number of duplicate plants, then it would also be right and proper that these should be sold. But since plants do not rise up and attain maturity by a spontaneous effort, nor are they reared without considerable expense and labour, and this must be the case wherever it is performed; and since it is not at all requisite to rear a single plant more than is required for keeping up the collection, nor can this be done at less cost in the establishments to which we refer, than in public sale nurseries, and very frequently costs more in the former than in the latter. To us, therefore, it is very clear, that if the whole cost of rearing duplicate plants for sale, under the circumstances in question, taking into account the leading and preparing of soil, the purchase of garden pots, the frequent changing, shifting, and daily attention of watering for eighteen months, two years, or more. There is also the hours lost in waiting on customers, many of whom waste hours in making a purchase of only a few shillings. There is also packing, the expenses of baskets, matts, &c. All this it is quite fair to take into the account, and when properly estimated it will be found that the sale ought to be considerable to give any amount of real profit. Our remarks apply to pot plants, such as require the protection of frames and greenhouses. With regard to out-door hardy plants, there is no such thing as spare duplicate plants; and therefore whatever is raised in this depart. ment, is the result of special labour devoted to that particular object, the amount of which will be at least equal, and generally much greater than is required to produce equal results in public nurseries.

The evils and supposed advantages of disposing of what is termed duplicate, or spare plants, from private and public gardens, has long been a fertile source of controversy; and events which have recently taken place at an important establishment of the latter kind in the vicinity of the metropolis, have led us to dwell somewhat more at length on the subject than we should have otherwise done.—ED.]

NEW AND RABE PLANTS IN THE METROPOLITAN NURSERIES.

At this present dullest season of the year, it would be unreasonable to anticipate the appearance of many novelties since our last notice; and we think that at the present moment the dearth of really good and showy plants is greater than we have known it for some years. There are, however, in various collections many very interesting plants from Swan River and elsewhere, which have not yet bloomed, but a few of which we shall notice in the present number.

Eupatorium odoratissimum.—A neat little shrub, with pretty shining foliage, producing numerous heads of rosy pink flowers. An interesting little plant, raised from seeds imported from Mexico, by Messrs. Low and Co., of Clapton.

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Trackymene lilacina.—A native of the Swan River, whence seed was transmitted to England by Mr. Drummond. It differs principally from the old T. cærulea, in the colour of its flowers, which are of a palish lilac. It will make a pretty plant for clumping in the flower garden. We noticed it in the same collection.

Catleya mossia.—A very superior variety of this valuable plant was exhibited by Messrs. Low and Co., at the late meeting of the Horticultural Society, and was generally admired. Some fine flowers of Catleya labiato were also present, but were greatly inferior both in size and colours. This superb plant is found near the Cacaccas.

Boronia anemonifelia.—A most interesting species, several plants of which are in the possession of the Messrs. Loddiges, of Hackney. The foliage of B. anemonifolia, is very showy, being intermediate between B. pinnata and B. alata. We are not acquainted with any particulars respecting the flowers of B. anemonifolia, but its relationship to so many lovely plants, is a sufficient warrantry of its excellence.

The same gentlemen have also been so fortunate as at length to raise a few plants of Boronia ledifolia, one of the most desirable of the whole tribe, and to raise which, all former efforts have been vain, although quantities of seed have at various periods been received by the Messrs. Loddiges, as also at the Clapton Nursery, Kew, and elsewhere. These two plants will, indeed, be a valuable acquisition to our collections of new Holland plants.

Mirbelia delitata.—This superb plant, which has been for some time lost to the country, has been regained at the Clapton Nursery, from imported seeds; and there are but very few newly-introduced plants, the introduction of which can be considered as of equal importance with the re-introduction of this, of its kind, almost unequalled plant.

Among the most interesting of the Swan River plants at present in the market, we may notice Thomasia glutinosa, a beautiful little oak-leaved shrub, the flowers of which are said to rival, if not surpass, those of our showiest Pimeleas; and a new species of Lælagia, in comparison with which the beautiful Lælagia ornata, shrinks into insignificance. We have the authority of Dr. Lindley, for this assertion. Both these plants may, we believe, be procured at the Clapton Nursery.



Talmen 2 Charaly March

REFERENCE TO PLATE XIV.



Fig. 1. ROSA INDICA, VAR. FABVIER.

2. ROSA INDICA, VAR. ODORATA BLANDA.

NAT. ORD. ROSACEÆ. CLASS ICOSANDRIA POLYGINIA.

The variety Fabrier of this class is quite unrivalled in the deep-toned colour of its purplish scarlet flower; nor is it less remarkable for the duration of its blooming season. It commences flowering about the first of July, and with us it has not ceased to blow from that period to the present time. There is now. Nov. 21st, roses in full perfection, with a succession of buds, which, should the frost not destroy them, will continue to blow for weeks yet to come. The habit of this is exactly that which gives to roses more than an ordinary degree of interest and beauty. It is perfectly hardy. The shoots are strong and upright, the flower-stalks are also stiff, exhibiting but a slight degree of curvature when the rose is fully blown. The flowers themselves are produced in sufficient numbers only, and do not by their profusion weaken the plant, a character of much value, where a continuation of bloom is desira-The foliage is rather thin, but large, compact, firm, and of a shining texture.

Fig. 2 is of similar habit to the first, equally excellent and desirable. The flower is also larger, and defying, in its delicate flesh colour, either description or art to convey a right impression of its beauty.

In giving the present plate, our object has been to draw attention to the rose, as surpassing all other shrubs, in the beauty of its flowers, and in doing this we have therefore thought it best to make choice of two varieties, which are both common, and very hardy.

Although these varieties are common, they are unsurpassed, and seldom equalled in beauty. And we are sure we are right in saying that to those who have not yet given their attention to this beautiful tribe of plants, they cannot err in obtaining plants of the two under consideration, and in preparing a small bed of each, we have little doubt but the result will prove all that they could wish.

As lawn plants, for standing on grass, standard roses are very beautiful, but the kind of standard which is the most beautiful of all, is formed of the climbing kind represented by the annexed wood engraving, planted in very rich earth, and trained to tall tapering flexible stalks, six to twelve feet in height. The kinds which are the most suitable for this purpose are the Noisettes, nearly all of which are admirably and equally suited for this mode of training. We might more particularly name the following:—Grandiflora Belle, Forme Dahlingen, Cerise, Cadot, Conque de Venus. This, with many others, save been in flower in this garden for several months, and indeed they only cesse to bloom when destroyed by frost in Autumn.

NOTICES OF NEW PLANTS.

CLEMATIS LATHYRIFOLIA, Large flowered erect Clematis. [Bot. Reg. NAT. ORD. BANUNCULACE &. CLASS POLYANDRIA POLYGINIA.

A hardy herbaceous perennial, with upright habit, bearing a corymb of whitish flowers; in general appearance, very much like the plant long and generally known in gardens under the name of C. erocta. Interesting, because it is new, otherwise it is not remarkable.

ENOTHERA BIFRONS, Heart-leaved Evening Primrose. [Bot. Mag. wat. ord. onagrariaæ. class octandria monogynia.

We have here another very beautiful species of this ornamental genus, with large bright yellow flowers, upright stems, half surrounded with lanceo-late leaves, deeply spangled with red coloured veins. It is a native of Texas, discovered there by Drummond, and continues blooming from August, till destroyed by the Autumn frosts. It has been raised at the Glasgow Botanic Garden, and from thence the figure before us has been taken.

LEPISMIUM COMMUNE, Lepismium.

Bot. Mag.

NAT. ORD. CACTE &. CLASS ICOSANDRIA MONOGYNIA.

Synonyms Cereus Squamulosus, Cereuselegans.

We shall be best understood by describing this plant as a flat or threesided Cactus, bearing at the buds or eyes on the edges of these angles, numerous small white or pink-white flowers. The generic name here adopted is founded on questionable characters, as will appear from the following remark by Sir Wm. Hooker, who says of it, "as a genus, I fear the characters are very elight."

It has been figured from the Glasgow Botanic Garden, and is supposed to be a native of Brazil.

RHODODENDRON CAMPANULATUM, Bell-flowered Rhododendron. | Bot. Mog.

NAT. ORD. ERICE E. CLASS DECANDRIA MONOGYNIA.

Taking flower, foliage, and the general habit of the plant, this is decidedly the finest of the many fine Rhododendrons, which are sufficiently hardy to endure the severity of our winter cold. The flowers are large, and of a light pink colour; the foliage is remarkable for the beauty of its texture, the upper surface of the leaves being of a rich light-green, while the underside

is distinguished by the peculiar brown-colonred feruginous substance of a close and velvety texture. Indeed, in our estimation, this plant far outstrips, in real beauty, all the hardy Rhododendrons, which have been brought into notice. Sir Wm. Hooker thus speaks of this ornamental shrub, "This superb plant has, we believe, very rarely produced its blossoms in this country." "Mr. Francis Dickson, of the Upton and Newton Nursery Grounds, uear Chester, most obligingly communicated the noble specimen here represented in the month of April, 1839. The plant from which it was cut, that gentleman remarks, has stood out of doors for the last several years; and, during the unusually severe winter of 1838, remained uninjured. In consequence of removing to a New Nursery Ground, the plant was lifted in November, 1838, and placed in a large tub in the greenhouse, where it produced its truly splendid blossoms the following spring.

The plant is four feet and a half high, and from nine to ten feet in the

circumference of its branches.

It is a native of Cossaingthan, and was introduced to our gardens by Dr. Wallich.

In a moist, open, but sheltered situation, where the peculiar beauty of the foliage could be displayed to full advantage, we do not know of a plant more truly beautiful than this.

EUTOCA MENZIESII, Mr. Menzies' Eutoca.

Bot. Mag:

NAT. ORD. HYDROPHYLLAE ... CLASS PENTANDRIA MONOGYNIA.

An annual plant, of moderate beauty, bearing tufts of small purple flowers. It has been grown in gardens two or three years.

FABIANA IMBRICATA, Imbricated Fabiana.

Bot. Reg.

NAT. ORD. SOLANACEÆ. CLASS PENTANDRIA MONOGYNIA.

This interesting and heath-like plant, with its white tube flowers, is a native of Chili. The hebit is said to be that of the Tameriak or Thuga, and will, therefore, form a very pretty shrub, but must be protected in the green house. The flowers are produced in great profusion. The flowering specimen was sent from Messrs. Lucumbe, Pince, and Co. of Exeter, during May last. It was also exhibited by Messrs. Rollisons, of Tooting.

GARDOQUIA MULTIFLORA, Many flowered Gardoquia. [Pas. Meg.

NAT. ORD. LABIATE. CLASS DIDYNAMIA CYMNOSPERMIA.

This little greenhouse shrub has now been cultivated in collections for several years, but is not yet so common as its merits deserve. In habit and general appearance it may be likened to the genus Fuchsia. The foliage is, however, broader, and the tubes of the flowers are longer and less open or expanded at the extremity, and altogether differently constructed at the mouth of the tuhe. When well grown it is a most abundant bloomer. As the cultivation is seldom managed well, we shall give the following very excellent remarks on this subject from Parton's Magasine: "The first point to be secured is a light and airy position in the greenhouse. Before the habits of both this species and G. Hookeri were thoroughly ascertained, they were most erroneously, and as subsequent observation has proved to their great detriment, confined to the stove. This naturally occasioned a smallness and weakness in all their parts, which is quite foreign to their native chat racter. The more recent and unquestionably the more satisfactory, because congenial practice, is to place them in a far cooler house. Indeed AG. multiflora is occasionally transplanted to the open ground, where it displays an extraordinary degree of exuberance.

HAKEA DACTYLOIDES, Finger-leaved Hakia.

Bot. Mag.

MAT. ORD. PROTEACE. CLASS TETRANDRIA MONOGYNIA.

A Green-house shrub from New Holland, having upright stems and long lanceolste leaves, broad at the extremity, and narrow, round and tap ring at the base. The flowers are of a yellowish white colour, and consist of name, rous bunches of short stamens, produced at the axics, and around the base of the leaves. It is said to be very ornamental in cultivation, but we are not quite of this opinion.

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GRAMATOPHYLLUM. Many-flowered Gramatophyllum.

| Pax. Mag.

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONANDRIA.

This species excited the attention of cultivators at the time the principal importation was made to this country, in 1837, by Mr. Cuming, from Manillo, having at the time been supposed to be the Letter plant of the Malayan Archipelago, and high expectations were then formed of its beauty and interest; and many are no doubt now unacquainted with the real character of the plant, which, although belonging to the same genus as the Letter plant, is, nevertheless, a much inferior species. It produced its blossoms in May last with James Bateman, Esq., of Knypersly, in Cheshire. The pseudo-bulbs are large, each bearing on its summit a bunch of large undulated leaves. The flower spike appears to be strong, and quite erect, and the flowers themselves are produced towards the extremity, which appears to be more flexible, and is bent backwards. The flowers are of a dark brown or chosolate colour, and yellow round the margin.

BRASSAVOLA PERRINII. Perrin's Brassavola.

Bot, Mag.]

NAT. ORD. ORCHIDACEM. CLASS GYNANDRIA MONANDRIA.

This is a native of Brazil, and plants were obtained from thence to the Glasgow Botanical Gardens, where it has since flowered. The leaves of this, as in the other species of the same genus, are round, and very rigid. The flowers are produced solitary; the sepals are long, of a whitish green colour, and the lip is very large and white. The blooms, although produced solitary, make ample compensation by their long duration. A plant of this species has been in bloom in the Orchideous house in this garden for several weeks, and appears as fresh as when it first began to expand. It is grown on the stem of an old tree, where the roots seldom receive any water.

CYRTOCHILUM MYSTACINUM. Whishered Curve-lip.

Bot. Rog.

NAT. ORD. ORCHIDACER. CLASS GYNANDRIA MONANDRIA

The pseudo bulbs are round and smooth, much reticulated, and tapering upwards. The appearance of the leaves resembles those of a small growing kind of Oncidium. The flowers are thin and straggling on the stem, of a self yellow colour, and not large. It is called a rare plant. It is not very ornamental.

DENDROBIUM FORMOSUM. Beautiful Tree, bloom.

Bot. B

Beautiful as are many of the species of Dendrobium, we know of none equal to this magnificent plant. The stems are long and rather slender, and the splendid corymbe of large white and pink coloured flowers are produced at the extremity of these stems.

Dr. Lindley says, "As a white-flowered epiphyte, it is almost unrivalled among Asiatic Orchidacese, the Phalenopsis amabalis being the only one that

can enter into competition with it."

It produced its blooms in the Orchideous house of his Grace the Duke of Devonshire, and in its native country was found by Drs. Wallack and Roxburgh, on trees in the forests of Sylhet, and in the Garrow mountains, flowering in April and May.

PATERSONIA SAPPHIRINIA. Sapphire Patersonia.

Bot Reg.

MAT. ORD. IRIDACEM. CLASS MONADELPHIA TRIANDRIA.

A beautiful herbaceous plant, requiring the simplest green house ouldvation, and inhabiting the Swan River Colony, whence its seeds were obtained by Mr. Mangles. Unfortunately the brilliant sapphire flowers, to which colours fail to do justice, are of short duration; a large plant will, however, produce numerous flower-heads, and the number of these blossoms compensate for their ephemeral existence.

"The species now represented differs from all mentioned in Dr. Brown's Prodromus, and in the account of Swan River plants described in the appendix to the Botanical Register now in course of publication, in its long narrow leaves and scape, which are quite destitute of hairyness, except when the former are

very young, at which time they are fringed with delicate down. Besides these there exists at the Swan River, a species of which I have a specimen that I presume to be new, but which I am unable to publish with confidence as such, which must be by far the handsomest of all. Its scape is two feet high, and much longer than the leaves, which are glancous, red-edged, smooth, and half an inch broad. Specimens were sent home by Mr. Drummond, from whom the seed might be readily obtained, if this description, brief as it is, were transmitted to him."

The flag-like leaves and erect flower stem, together with the brilliant blue flowers, renders this a desirable plant.

SCILEA PRATENSIS, Meadow Squill.

Bot. Reg.

NAT. ORD. LILIACER. CLASS HEXANDRIA MONOGYNIA.

This is a pretty little bulb, flowering in June. "It is a native of Croatia, in fields and meadows, by the side of the river Korenioza, and especially near the village of that name. It is nearly allied to Italica, but perhaps more especially so to S. autumnalis. The flowers are a purplish blue, and the plant is quite hardy."

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

LEPTODERMIS LANCEOLATA.

A small shrub, with pale yellow flowers, something like a cream-coloured Bouvardia; nearly hardy, and at present in the garden of the Horticultural Society.

SOLLYA LINEARIS.

This is botanically distinct from S. heterophylla, to which in general aspect it much resembles. It is a very ornamental little climber, with bell-shaped flowers of the most intense blue. Dr. Lindley remarks "It is much to be desired that Solia angustifolia, the Bellardiera fusiformis of Labellardiere, should be procured for our gardens; it is said to be found in Van Diemen's Land, and to have hairy leaves, distinctly veined, and large blue flowers.

HOTEIA JAPONICA.

This is the Spiræa barbata, Bot. Reg. t. 2011, and Astilbe revularis of Don.

COTYLEDON CRESTATA.

A curious succulent plant, but by no means ornamental.

EPIDENDRUM INVERSUM.

& A native of Brazil, and nearly allied to Ep. fragrans. The flowers are straw coloured. Dr. Lindley has the following remarks relative to this genus: "Of this form of the genus Epidendrum, of which E. fragrans may be selected as the type, there are now several species on record, and it is probable that many more remain to be discovered. I am already acquainted imperfectly with more than one undescribed species. It will, therefore, be necessary to provide, a distinct section for such species, to which the name of Osmophytum may be assigned in allusion to their being usually scented plants."

IPOMÆA PURGA.

It would appear that this species from which the principal supply of Jalap is obtained, has been in more than one instance recently imported to this country. The flowers are of a rich crimson colour, and about four inches long. The Editor observes, "As it is already in the possession of many persons, and will soon become common, I am unwilling to keep back the following useful notes upon its cultivation, for which I am indebted to Mr. D. Beaton, Mr. Harris's intelligent gardener. The following are the notes referred to: "It seems to require a cool atmosphere, and plenty of room at the



costs, and yet the latter are neither numerous nor strong. In the store it grows too vigorously, without any disposition to flower. I had one plant in a pet all this eason in the orange house, but if I had turned it out against the front of the store, I have no doubt it would have succeeded better in regard to flowering. To keep the roots or tabers dry from Newamber to March, then to force them slightly, and afterwards harden them so as to stand the open air by the end of May, would, I think, be the best way of getting it into fine bloom. Last season, a dry root from Xalapa, was planted out of doors about the beginning of June, and by the end of September, two dozen flowers were ready to expand, but being in the open garden, it was then too sold for them to open."

SPECKLINIA OBOVATA.

A Brazilian epiphyte, with small pale yellow scentless flowers.

RODRIGUEZIA LAXIFLORA.

Also a native of Brazil, scarcely so ornamental as the preceding.

RODROGUEZIA CRISPA.

"This is the finest of the green flowered species, and is remarkable for the crisped appearance of its flowers, which are sea green, bordered with yellow. The fragrance is delicious, resembling that of primroses. It is a native of Brazil."

CATASETUM PROBOSCIDEUM.

This plant is nearly related to C. cernnum and C. barbatum, and may probably prove a mere variety of the latter species.

The following have been communicated from the Hon, and Bey. W. Herbert:—

CLITANTHES HUMILIS.

MACLEANICA. LUTEA.

ISMENE DEPLEXA.

In speaking of the cultivation of these plants, Mr. Herbert says, "Every Ismene delights in white sand, every Hymenocallis in strong alterial soil, and immersion in water."

LÆLIA FLOVA.

Thought to be a native of Mexico, and has recently flowered in the collection of Sir Chas. Lemon, Carclew.

ECHEANDIA TERNIFLORA. Syn. CONANTHERA ECHENANDIA. ANTHERICUM REPLEXUM.

A native of Real del Mont, whence it was obtained by Sir Charles Lemon, in whose collection it flowered in the green house in June, 1838, and continued in bloom for many weeks. The flowers are yellow.

REVIEW AND MISCELLANIES.

Appendix to the twenty-three Volumes of Edwards's Botanical Register, consisting of a complete Alphabetical and Systematical Index of Norman, Synonymi, and Matter, adjusted to the present State of Systematical Botany, together with a Shetch of the Vegetation of the Sunon River Colony, with nine coloured Plates, containing eighteen coloured Figures of Plants, and four Wood-cuts. By John Lindler, Ph.D. F.R.S., and I.S., Professor of Botany in University College, London, and the Royal Institution of Great Britain, Vice-Secretary of the Horticulinral Society, &c. &c. &c. &c. Published by Mr. Ridgway, London.

The subscribers to the Botanical Reg. will find this a most valuable appendage to that excellent work. The easy facility which it will afford, in referring to the plants figured and described throughout the work, from its commencement up to the present time, will greatly add to the value of the work itself. But this is not the only advantage of the Appendix: it does not only refer to the coloured figures and leading subjects of the Register, but embraces the vast accumulation of valuable information incidentally noticed throughout the body of the publication. The following remarks by the Editor will best explain the objects of the work:- "It is true that alphabetical lists of the plants figured in these volumes have already been published; but one of these lists stopped with the 13th volume, and the other applies only to the ten succeed. ing ones. They are, moreover, merely alphabetical, while a systematic Index is quite as necessary, and they contain no reference to the numerous synonyms ascertained during the progress of the publication. These considerations have led the Editor to undertake the laborious task of preparing a new and complete Index, both classified and alphabetical, of the entire work, including not merely the names of the plants actually figured, together with their synonyms, but references to all the genera and species described only in the notes, and to such systematical and physiological observations as are to be found scattered through the pages. In doing this, the opportunity has been taken of revising the whole of the nomenclature, and of introducing such changes and corrections as the rapid progress of systematical botany has rendered necessary. The systematical Index has thus become a silent commentary on the whole twenty-three volumes, and is au indispensable adjunct to the work itself."

Those who are at all concerned in the possession, cultivation, or introduction of Swan River plants, will be delighted with the second part of this Appendix, in which will be found highly useful and most interesting information relative to the botany of the Swan River colony; such, we believe, as could not have been given at present by any other individual, possessing as he does such vastly varied sources of information. With reference to this part of the work, he says, "It has appeared desirable to take advantage of this opportunity for publishing at once a detailed account of the vegetation of one of the most interesting of the British colonial possessions, from which multitudes of seeds are now continually arriving, and for which it is absolutely necessary for the lover of a garden to have some knowledge, if he would avoid the vexation of buying plants of no value, under high-sounding and imposing names. It is probable that, for some years to come, few species deserving cultivation will be received from Swan River, beyond such as are noticed in this Appendix, which will, therefore, it is hoped, form a useful guide to parchasers in this country, and enable those who reside in the colony, or who have friends there, to judge, on the one hand, what to send home, and, on the other, to ask their correspondents what to collect.

Annexed is also given a rapid historical sketch of the coluny, including an account of the authorities and sources from which this aketch is drawn up; its situation as to latitude, extent, and relative proximity to other settlements; its appearance as to forests, mountains, plains; the kinds of soil and cultivated plants; its fertility and abundance of water; chimate, and the introduced plants; the more conspicuous plants, which contribute to form the landscape; and, lastly, a descriptive popular account of seventy-two plants, being all that is included in the first of three parts, this being the number advertised.

As this is the season for preparing and renewing labels, we quote the following from the Gardener's Magasine :- Sir, a plan I have lately adopted for marking all descriptions of plants in my garden, appears to me so cheap and durable, that I am destrous, through the medium of your excellent Magazine, to make it generally known; conceiving, as I do not observe a similar method mentioned in your Kneyelopudia of Gardening, it is not very frequently practised. The material I use is slate, which I cut into tallies of various sizes, from one to two inches wide, and from three to six, or even ton or twelve inches long; on these tallies, I mark the name of a plant, or a number, with white lead; from the experience I have had, I am inclined to think these will come in cheaper than any made of wood. The slate I use is the broken waste, of which large quantities are thrown away by slaters. These are very readily cut to the dimensions required, by procuring an iron, similar to that used by slaters, which can be made by any blacksmith, and an old bill-hook or neat cleaver may be made into a tool for making the edges straight. I mark them with a camel hair pencil, similar to those used by painters in lettering; the paint I get mixed in small quantities as I want it, at a painter's. A little practice will enable any person to cut the slate with sufficient accuracy, and very soon to mark upon it with neatness, ease, and expedition. The permanent label described in your Encyclopædia of Gardening (1386), may be made of the same material, and a durable tie easily obtained, by using copper wire, which may be procured at any ironmonger's shop.—Gardener's Magazine.

An accident which happened to two hundred of my original drawings nearly put a stop to my researches in ornithology. I shall relate it, merely to show you how far enthusiasm-for by no other name can I call the persevering zeal with which I laboured—may enable the observer of nature to surmount the most disheartening obstacles. I left the village of Henderson, in Kentucky, situated on the bank of Ohio, where I resided for several years, to proceed to Philadelphia, on business. I looked to all my drawings before my departure, placed them carefully in a wooden box, and gave them in charge to a relative, with injunctions to see that no injury should happen to them. My absence was of several months; and when I returned, after having enjoyed the pleasures of home for a few days, I inquired after my box, and what I was pleased to call my treasure. The box was produced and opened; but, reader, feel for me: a pair of Norway rats had taken possession of the whole, and had reared a young family amongst the gnawed bits of paper, which, but a few months before, represented nearly a thousand inhabitants of the air. The burning heat which instantly rushed through my brain was too great to be endured, without affecting the whole of my nervous aystem. I slept not for several nights, and the days passed like days of oblivion, until the animal powers being re-called into action, through the strength of my constitution, I took up my gun, my note book, and my pencils, and went forth to the woods as gaily as if nothing had happened. I felt pleased that I might now make much better drawings than before; and ere a period not exceeding three years had elapsed, I had my portfolio filled again.

[The conduct of Audubon, on this occasion, will be a useful lesson to the young, and will point out to them the necessity of never relaxing in their exertions, or giving way to despondency, whatever difficulties they may have to encounter in their progress through life.]

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XLIV.-JANUARY, 1840.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE OF CAPE ERICAS, &c. BY JOHN M'EVOY.

Of what other genus can it be said that every species, without exception, is beautiful throughout the year, and at every period of its growth-in flower or out of flower, and of every size and age? Suppose an individual had the penance imposed on him of being forbidden to cultivate more than one genus of ornamental plants: is there a genus he could make choice of, at all to be compared to Erica? "Perpetually green, perpetually in flower; of all colours, of all sizes, and of many shapes;" such are the words of the justly celebrated Conductor of the Gardeners' Magazine, vol. i., p.386; and few will deny the assertion: none, I am sure, will do so, who have had the good fortune to see the truly splendid collections of Messrs. Rollisson, Tooting; Messrs. Loddiges, Hackney; Messrs. Henderson, Pine Apple Place; or the magnificent specimens exhibited by Messrs. Lucomb and Pince, of Exeter, and G. Glenny, Esq., of Worton; at the H. S. Gardens, Having here a choice, and, I will presume to say, a tolerably well-grown collection; and not having seen any detailed observations on their culture in your valuable Magazine, perhaps a few remarks may not be out of place, especially to the young cultivator. You, of course, Sir, will be the best judge. Ericas can be freely propagated by cuttings; that is, if proper caution is taken, after they are inserted in the cutting pans, to keep them from damping off. To name any particular season as being best for selecting cuttings for propagation, I think useless; for some cultivators say spring, others say summer. My humble opinion

is, that Ericas can be propagated at any season, if the wood is firm enough to prevent damping off. For this purpose, pans six to eight inches deep, I consider a proper size; fill one half the pan with broken potsherds, over which spread a thin layer of moss, cut small. I have often seen a valuable pan of cuttings rendered useless, by the violence used in separating the thread-like fibres from the matted moss; and every cultivator must know, by experience, how necessary it is to retain, if possible, the smallest fibre.

The fact is well established, that plants, like animals, require food to nourish and sustain life; but not having the power of locomotion, they are furnished with numerous mouths, which extend into the soil for that purpose. These mouths (spongeoles) being situate on the points of the fibres, it is obvious that, if they are destroyed, and the plant deprived of its principal channel of neurishment, it will die. It is well known that many plants have the power of reproducing roots in abundance, when mutilated, and that advantage is taken of this property by the skilful gardener, in making barren trees produce both fruit and blossom. But, so far as my observation extends, the orders ericeæ and epacrideæ do not admit of such treatment. Over the moss in the cutting pots, place a thin layer of sandy heath-mould, and fill up about an inch deep with silver sand. Give some water with a fine rose pot, and make the cutting whilst the sand is drying. Without reference to season, select such as are uniform in growth, say from one to two inches long, separating the hard-wooded kinds, from the softer and more rapid growing sorts; with the latter, a small portion of the old wood will prevent the cuttings damping off. I have found Ericas, as well as most other delicate cuttings that are susceptible of over-moisture, succeed best when planted close to the side of the pot. When the cuttings are planted, they should be gently watered, and allowed to dry before they are covered with the bell glasses. They may either be placed in a cool part of the store, close to the glass and shaded from the sun, but exposed to the full light mornings and evenings, or in the greenhouse, near the In the stove the glasses will require wiping twice a day, as the vapour condenses more rapidly than in the green-Should the first effort fail, do not despair: put in more cuttings, and by close observation you will soon arrive at the secret of propagating. I have frequently put in Heath cuttings, as it were this week, and all, or nearly all, failed : next week I put in another crop, and did not lose one. Close observation is the best monitor, for there is an endless chain of minutize, which the most skilful cultivator cannot define, and which can be learned by experience and observation alone. When the cuttings show signs of growing, give air for a short time each morning, and be sure to cover and shade before the sun comes strong upon them. When the cuttings are rooted, and require potting off in Spring, they should be placed singly into the smallest sized pots; if in Autumn six or eight may be placed round the inside of a 48-size pot, well drained, and filled with very sandy heath soil, introducing putsherds or pieces of stone, broken to the size of peas, into the soil, which will prevent them from suffering from drought or an excess of moisture, two extremes to be carefully guarded against. After potting, they should be placed under hand-glasses in a pot or frame, and carefully shaded for a few days, afterwards gradually exposing them to air and light. Proper attention should be paid to shifting, as soon as they require it. The soil should be the same as the former, with a small portion of light sandy loam. When shifted a third time, each plant should be raised half an inch in the centre of each pot, so that the base of the stem be on a level with the top of the pot. For the information of others, I may mention here, a method which we have followed at this place during the present Summer, and with considerable success. One of our pine pits was this Spring converted into a propagating house, giving it a north aspect by raising the front wall and reversing the sashes. Inside of this house is a pit three feet wide, filled with tan, on which was laid four inches of sandy heath soil, and one inch and a half of sand. In this I planted about three hundred Heath cuttings, but not having enough to fill a large handglass, I was induced to fill up with some of the choice green-house plants, viz., Chorozema Prostanthera, Eutaxia, Loddigesia, Dillwynia, Lachnæa, Epicaris, &c. These rooted quicker than most of the Heaths. I was then obliged to give more air than was suitable for the slower growth of the Heaths, and consequently some of the hard-wooded sorts have not done so well, but the softer kinds have succeeded most completely. By such a system

Banksia, Dryandria Protea, and similar plants, can be struck to perfection.

Potting.—It seems immaterial at what time this is performed. From March to September, Heaths may be shifted with success, providing they require it, and this ought to be the only criterion to determine the time. Nothing is more injurious to Heaths than shifting them into large pots, when they do not require it. Heaths, like most Cape plants, love a cool, moist, yet dry soil; that is, moist but not retentive of water. I consider the best time for shifting Heaths is just before they come in bloom, as there is less risk of breaking the fibres at that period than when they commence growing. When any of the plants appear sickly, examine the roots; if they are unhealthy, reduce the soil carefully, and repot them in very sandy soil, in a pot one or two sizes less than the former. If any of the old roots are cut away, reduce a corresponding number of branches: I have gone so far as to wash the roots in water, in which I dissolved some nitre, say an ounce to a gallon of soft water. In this way I have recovered several plants, which, I think, under other circumstances, would have died. Heaths should never be over-potted; two sizes larger is sufficient for the most robust kinds. If it be desirable to encourage a favourite specimen, it is best to shift it two or three times.

Drainage.—This is of the most vital importance, for without due attention to this point all other care will be vain. From one to three inches, as the size of the pots may be, of broken crocks and freestone ought to be placed on the bottom of each pot, and over this a layer of moss, to prevent the finer particles of earth from choking the drainage. In potting large specimens, I use a small pot, inverted over the drainage hole, which prevents all danger of the hole being stopped, and, likewise, prevents the ingress of worms. The elevation of the top of the ball above the margin of the pot, should be carefully attended to; some condemn it as unsightly, to my mind, if the operation is neatly performed, it gives the plant an interesting appearance, it is at the collar, or part of the stem, immediately in contact with the soil, that Heaths suffer most from too much moisture. and ought to be followed without reference to appearances, this is the practice of our most successful cultivators. In potting, great care ought to be taken to avoid breaking the ball or destroying any of the fibres, a gentle shaking with the hand will loosen the fibres from the old ball. When the plants do not require shifting, it is better to remove some of the old, and add fresh soil, with the addition of a clean pot, if new ones are convenient, so much the better. The soil I use, varies according to the constitution of the individual plant: for such kinds as Hartnelli, Massonia, Archeriana. Aitoniana, Sprengelii, Elegans, Aristata, &c., very sandy heath soil, and a small portion of light loam is suitable, with which I mix chopped moss, broken potsherds, and pieces of freestone; for the robust growing sorts, I use equal parts of sandy heath soil and loam, and moss and potsherds as before; I never sift or screen the soil on any pretence, the fibre I consider the most valuable part of the soil; the soil, however, I think of much less consequence than careful attention to watering, for without caution in the application of this element, Heaths cannot be long continued in good health. Our system is, to examine the plants every morning, and water only such as are dry, afterwards to syringe all the plants freely, and when the weather is hot, this is again repeated in the I examine occasionally the pots to see that the drainage is free; in attending to this operation, I have frequently found after giving what I consider a copious watering, that it had not sufficiently moistened the soil, to remedy which, I use a piece of strong wire, with which I perforate the ball in several directions, so as to afford facility for the water to enter every part of the earth. No class of plants are so susceptible of injury from the excess either of draught or moisture, and, therefore, the medium between these two extremes, becomes of great importance in their cultivation. In the early part of the summer of 1839, after removing the more hardy sorts out of doors, we set all the choice kinds on the stone platform of the heathery, the branches three or four inches apart from one another, the spaces between the pots were filled with moss, this prevented the plants drying in the pots, and thereby saved much labour in watering. I seldom gave the plants any water, except what they receive from the daily syringing; as a cool and dry atmosphere is an essential requisite in the cultivation of this genus, the moss was, therefore, removed about the middle of September. In dull moist weather, I give water as seldom as possible, even to flowering plants. About the middle of May, all strong growing kinds are set out of doors; this affords room to the more delicate kinds: those placed out of doors, should be placed on cinders or gravel, and screened from the mid-day sun, whether in or out of doors; it is of great importance to fill the spaces betwixt the pots, as already hinted at, and this may be done with moss, or by placing the pot which contains the plant within another of larger dimensions. Such as have not a heath-house, need not be deterred from cultivating this delightful family. A deep frame or pit, is a very good substitute for a greenhouse, and may be formed as under: say three feet at the back, allowing a greater slope for the glass: the width and length depend on the number of plants requiring protection; the floor of the pit should be rendered quite dry. About the first of May, the frame should be elevated on four stout blocks of wood, to admit a free circulation of air to the plants, each kind should be raised according to its height, on inverted pots, to within a few inches of the glass; by attention to frequent syringing, and keeping the interior cool, and carefully shading the plants during the heat of the day, they will thrive most luxuriantly.

The shading used on the heathery here, is a coarse thin canvas, called cheesecloth; it admits light freely, and thereby prevents the fierceness of the sun's rays from injuring the plants during the middle of the day. In very sultry weather we draw the lights completely off. About November the frame should be lowered to its minter position, the same situation from which it was raised, and the sides neatly banked with dry turfy peat, with a covering of mats; and in very frosty weather a layer of dry fern will fully protect them from frost.

It is a common practice with successful cultivators about London, and I have followed it myself, with some success; I mean the cultivation of choice plants in frames, especially such as Boronia, Platylobium, Epacris, Gompholobium, Dillwynia, Hovea, Chorozema Daviesia, Lachnæa dracophyllum, and many other choice plants may be grown to the highest state of perfection in this way.

It is a common error that Heaths are impatient of pruning, and, hence, the frequent occurrence of tall and unhealthy plants. So far from Heaths being injured by pruning, few plants bear it with greater impunity, or are more improved, by being carefully shortened back, more especially the free growing kinds. After pruning, the plants should not be put under the stage, or in some dark cosner.

as is often the case, but by all means to be placed in an airy situation; for, be it remembered, that the sun is the grand agent in the re-production of shoots, and being natives of the Cape of Good Hope. They are there subject to an intense light; which, according to Sir John Herschell, is twice as strong at the Cape as it is in this country; a fact that we ought to bear in mind in the cultivation of this genus. We are generally exceedingly careful to secure a high temperature, for the choice plants that fall into our possession, but too often neglect what is of far greater importance to their health, namely, proper attention to light and air. The Heath is sometimes infested with green fly; the remedy for this is very simple, and neary be completely cured by once or twice applying fumigation of tobacco smoke. They are also subject to mildew, which is a much more dangerous enemy; and when allowed to spread, will soon destroy the whole collection. Its first appearance ought to be checked by sprinkling flower of sulphur over the whole plant.

I have also used lime water, and found it equally effective, and I prefer it to the sulphur, because it does not give the plant an unsightly appearance; but by immersing the branches in the water, it consolidates the wood by extracting the superabundant meisture. Most experienced gardeners know its valuable effects on Peach and Nectarine trees in Autumn. In connexion with the above remarks, you will, perhaps, give the following list, which I have made from our collection, and can strongly recommend them as a selection of very beautiful kinds:—

SELECT LIST OF ERICAS.

Brica	Picta.	Erica superba	Brice colorans
	Banksiana	pubescens	favoides
	purpurea	globosa	elegans
	speciosa	glabra	Bowiesna.
	densa, or glabra	brevifolia.	Irbyana
	grandiflora	presguane	Shannoniana
	splendens	coccinea	Cliffordiana
	gelida	ampullacea	comosa
	opistomia	vistate.	mirabilis
	ignescens	aristata major	humeana
	Rollinsonii	transparens	radiata
	Carinata	Patersoniana	Coventryana
	mammom	bicolour	intermedia
	pallide	tricolour	moschata
	purpurea	tricolour elegans	Juliana
	ventricosa	superba	ovata
	superba	sulpherea	verticfilitis
	carnea	Linnæoides	blanda
	coodinità	Archeriana	veetite

Erica vestita roma alba fulgida coccinea Monsoniana grandinosa cerinthiodes coronata vernix coccinea sprengelii metulæfiora bicolor solandra troasula	Erica quadrata viridiflora suaveolens edora rosea echiiflora hartnella Thunbergia Aitoniana venusta Sebana gemmiflora Linnmana superba Willmorei	Erica coccinea curvifiora pomifera rosea mutabilis hybrida rubra calyx recurvata mundula triceps fastigiata perspicua campanulata hymealis
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JOHN M'EVOY.

Lewesten House Gardens, Sherborne, Dorsetshire, Oct. 16th, 1839.

[The last-hamed species, with tab flowers, white at the extremity, and of a delicate rose at the base, we think the most beautiful of all the Winter flowering kinds.]—EDIT.

OBSERVATIONS DURING A GARDENING TOUR. BY THE EDITOR.

Dec. 5th .- Cassiobury Park, the Seat of Earl Essex-is situated in the county of Hertford, and joining the town of Watford, which is fifteen miles from London, on the Holyhead road, also near the Watford Station on the London and Birmingham Railway. The mansion is a square pile, built in the Gothic style. The park is extensive, and well wooded; there is also a stream of water passing through it on the south west side, which has, in some parts, been widened into a considerable breadth. The groups of trees in the park, which are very numerous, have been planted with much judgment, so far as relates to This will be understood by saying, that they are grouping. planted in fives, threes, sevens, tens, and in greater or less numbers, but always of the same kind, so that each forms a bold and striking feature, marked and distinct from all the others. When groups are formed of various kinds of trees, this is never the case; and, indeed, when mixed, any one group may generally be taken as a sample of all the others, scarcely differing in any material degree. That a park or lawn, the two differing only in the magnitude of the several articles with which they are to be planted, is infinitely more beautiful when those kinds which resemble each other in habit are planted together, or, in other words, in groups; examples of this will be found in the park in question.

We were particularly struck with a group of four or five ash trees, which, although seldom considered very picturesque or beautiful, yet, when forming a mass of some magnitude, the outline was peculiarly bold and graceful, and such only as could be produced by this particular tree. There were also groups of beech, oak, elm, limes, thorns, &c. all unmixed, and each forming an outline peculiar to itself, and when seen as a whole, appeared exceedingly beautiful.

In an angle on the north west front of the house is a plant of Photinia arbutifolia, but, perhaps, better known as Cratægus arbutifolia. This plant was nailed to the wall, and had attained the height of thirty-five or forty feet, and had been planted only ten There were two others nearly as large as this on a different aspect. On the south west front, there were four plants of Magnolias grandiflora; a plant of the Exmouth variety, had attained forty-five feet, and one of the old grandiflora fifty feet in height, although it had been frequently cut back. The others already mentioned were nearly as large, and were at the time in flower. On the same front were growing three double Pomegranates, which were sixteen feet in height, and nearly as much in breadth. In a Chinese conservatory, chiefly occupied with Camellias, the black and green Teas; there was also growing a plant of Pæonia moutan or tree Pæony. In one of the stoves we noticed a plant of Cactus speciosessimus about two feet in height, the stem of which was worked throughout its length with Cactus truncatus; the latter had taken and was growing vigorously.

The pleasure ground is kept in as good condition as the limited number of men will allow, and this department is remarkable in being subdivided into many little compartments, all of which are separate and distinct from each other. These divisions or fences consist of laurel, box, yew, holly, spruce, &c. all of which are clipped into a great variety of forms. The place, although curious, and, perhaps, to many pleasing, when seen under high keeping in summer, with its clipped and trimmed laurel, yew, and other banks and hedges, must present a striking and curious appearance.

This style of gardening is very expensive in keeping. The frequent cutting and clipping which these evergreen hedges and platforms require, consume a great amount of labour, without which they become most unsightly, and even intolerable unless maintained in the highest state of keeping. Were the gardens and grounds here to be altered, one mode of improvement would be to clear away many of the hedges and fences, open avenues and vistas, throw out on the lawn many fine specimens of trees and shrubs now crowded and being greatly injured with many common place plants.

There are several greenhouses and conservatories scattered through the pleasure ground, occupied with orange trees, camellias, and free flowering greenhouse plants.

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In the kitchen garden there are pines, peaches, vines, figs, &cc cultivated in forcing houses. One house was planted with standard peaches, that is they were not trained, but were growing as free round headed trees; and the gardener, Mr. Buckingham, stated that the fruit grown on these trees are much higher flavoured than those produced on trees trained on walls or trellises. This is the case with other stoned fruit; the green gage plum, for instance. Most people are aware that the fruit produced on a standard is more highly flavoured than such as are produced on trees trained against walls.

One thing struck us as rather remarkable about this place. Within an hundred yards of the east front of the mansion, divided only by a dwarf wall from the lawn front, the surface of the park is neglected, and covered with furze and similar native plants. Were the ground precipitous, and such as could not be cultivated, this would have accounted for the appearance, but this is not the case. The surface is flat, and in this respect offered no resistance to cultivation and improvement. Natural scenery of this kind is very well when met with in some sequestered spot; but the contrast in this instance is violent, and, therefore, very objectionable. We had never seen the place before, and the impression made on our mind was, that the fenny, and apparently neglected ground in question, was a wet and unhealthy morass, this being the impression made on our minds, it is not improbable that similar sensations would be produced on the minds of other visitors.

Stamford Grove, - Bromley, Esq.-This is one of those places occasionally met with, where every part of the pleasure ground, borders, beds, &c., are filled with choice plants. Many Australian plants endure the winter here, and are growing vigorously: amongst these we noticed Acacias, Melaleucas, &c. In an outer border, in front of a stove, had stood for three winters, a plant of Stretlitzia regina, it was, when we saw it, healthy and green, but the leaves had become very small, scarcely larger than the S. pumila, the leaves, stalks, and altogether, were under a foot in height. There were also several plants of Camellias in the open beds, from four to five feet in height, and others trained to the garden fence; the latter had been out six or seven years, and the others for two or three. One of those in the open border, five feet in height, is the variety called Lady Hume's blush, and it has been in its present situation five years. It was stated by Mr. Bromley, that his plants suffered more from the intensity of the sun's rays during the summer, than from cold in winter.

Clapton Nursery, Messrs. Low and Co.—Here the general stock is in excellent condition, and contains a great number of new plants from the Swan River, many of which are peculiar in habit, and quite distinct from those of any other country. Amongst some of these we noticed Hovia longifolia, valued at seven guineas; Astragalus, a species in the way of Clianthus; also a species of Mirabilis, and many others.

Mr. Low was also having, at the time we were there, two hot water boilers introduced into some of his nursery pits; they are of a peculiar construction, and highly spoken of as economical in the consumption of fuel, and remarkable for the length of time they continue to burn and keep up the heat in the pipes. We understand these boilers has been extensively used around the neighbourhood of London. In our next we shall probably give a more detailed description of this boiler.

Chandler's Nursery, Vauxhall.—This establishment has long been famous for the cultivation of the Camellia, and they are now in very high health. But the grand feature here, is the great variety of Chrysanthemums, many of which are new, having been raised from seeds saved in this country. We were particularly struck with one bearing the name of Magnate; the flower pot in which it was growing was sixteen inches in diameter

and we counted the expanded blooms, which, upon this single plant, amounted to one hundred and fifty, and many others were equally beautiful. Mr. Chandler kindly informed us that their mode of treatment, which is attended with so much success, is to turn the plants out into the open ground about the end of April. No doubt the soil is highly enriched with stimulating manures, and, probably, in a very sheltered situation: here they remain during the summer, and are again lifted and potted as soon as the flower buds are matured, begin to open, and show colour. They are then allowed to stand in an open shade, screened from the sun, for about ten days, and are then removed into the greenhouse, where they remain in bloom for several months. Any thing more splendid than the display which we saw here, could not be easily imagined. This method of treating the chrysanthemum is well worthy of attention. No class of plants can be more easily grown, and certainly none can surpass the gaudy appearance which they exhibit, when thus treated.

Woking Nursery.—Mr. Donald is the proprietor of this nursery, many years established, and for some time famous for its collection of trees and shrubs, this being the first provincial nursery; and. with the exception of Messrs. Loddiges, of Hackney, Mr. Donald was the first nurseryman in Great Britain who attempted the planting of a systematic arrangement of hardy trees and shrubs. There are now in his arboretum many fine specimens of rare trees and shrubs. Mr. D. has for some time cultivated a collection of orange trees; and he has, this autumn, contrived a very ingenious, economical, and effectual mode of protecting them during winter. It might be described as a large moss-house, or rustic covered seat. The form of this structure is a parallelogram, perhaps about thirty feet in length by about ten or twelve in width. It is covered with a span roof, and neatly cut with hanging eves, upright sides, and steep and projecting gables. The frame-work is rough rails, and the whole is covered, roof, sides, and ends, with Heath. There are several openings in each side for the admission of air and light; these are made to work on hinges, and open and shut at pleasure. The quantity of Heath is such as to completely exclude the frost, and may be about ten or twelve inches in thickness. In the southern counties of England, where the orange and lemon produce and mature their shoots in the open

air, in summer, structures of this kind might be erected in the pleasure ground, made ornamental, and used as covered seats for retiring to, during sunshine or rain; and, in winter, used as a protection for orange trees, camellias, shaddocks, limes, standard fuchias, and similar ornamental plants.

Cirencester. Mr. Gregory's Nursery .- This is an old and longestablished concern, formerly carried on, with unusual success, by the present proprietor's father. The grounds are now much less extensive than formerly; but more attention is paid to the finer and fancy articles. There is a small house appropriated to the use of Camellias, another to that of Geraniums. There is also a small stove, in which is grown a miscellaneous assortment of Stove Plants and Orchideæ. Besides these, there is a range of glass, occupied with Greenhouse Plants and Heaths. In passing through the greenhouses, a plant was pointed out to us as new, and said to be Statice Grandiflora: this had attained the height of about four feet. The foliage is long and fleshy, narrow, and clasping the stem at the base, but a little broader and oval towards the extremity; the stems are round, and of a brown colour; the whole foliage of a grey There was also, in one of the greenhouses, a warty-green. splendid plant of Enkianthus Quinqueflora, by far the finest specimen of the plant we have ever seen: it was not less than seven or eight feet in height, bushy, and covered with flowers of a rosy pink colour.

There is in this small town, besides Mr. Gregory, Mr. Smith, who carries on a considerable trade in agricultural and garden seeds, and has also a small nursery, and some glass. Although now but a small market town, and containing only five or six thousand inhabitants, Circucester was once an important fenced city, and the nursery grounds of both these gentlemen are within the walls and on the ruins of former greatness. We were told that, in many parts of these grounds, at not more than three feet from the surface, walls, steps, pavements, roads, &c. are frequently met with. The latter was described to us as being made in the following manner: - First, a bed of lime, in which is set, with great accuracy and firmness, pitching stone, similar to that used for the streets of towns and cities of the present day. Over this pitching stone is laid another bed of lime, and this is again pitched as before. The intricacies of this pitching is again filled, and covered with cement of extraordinary hardness. Digitized by Google

On our way from London to this place, while passing through a small village in Oxfordshire, our attention was attracted to a hedge in front of a cottage. This hedge consisted of laurestinus, and was at the time covered with a sheet of white flowers, and was, indeed, a most beautiful object.

Mr. River's Nursery, Sawbridgeworth.—This is an extensive establishment. The principal stock is roses, fruit trees, and shrubs. There are also several plant structures for the culture of geraniums, rhododendrons, and camellias. Mr. R. has adopted an excellent and rational method of treating pear trees, with the view of inducing early fruitfulness. The plan in question is quite worthy the attention of those who take any interest in the culture of the pear; for all who know anything of our domestic fruits, are aware of the tendency of the pear to grow rapidly to a large tree, without exhibiting any disposition to produce fruit, until it has attained both age and great size. To check this evil, Mr. R. adopts the following plan; and although not a new one, it is by no means generally practised or understood. The plants, after being two or three years in the open border, generally begin to grow with great luxuriance, but without showing flower buds. Mr. R. therefore, examines the roots of his plants, at about three or four feet from the stem; indoing this, all the large roots are pruned away; and by this process, the supply of nourishment by which the luxuriance of the plants is maintained, is cut off, and instead of long and robust shoots, flower buds are formed. In Mr. R.'s nursery, we saw many trees, of three, four, and five years' growth, covered with flower buds, and likely to bear abundant crops of fruit. We have endeavoured, at various times, as the pages of this Magazine will testify, to draw attention to the importance of attending to the pruning of the roots of fruit-bearing trees, for in this lays the grand secret of all pruning. We also observed amongst Mr. Rivers' shrubs, his seedling variety of Mahonia, obtained between M. fascicularis and .M. repans, from both of which it is very distinct. It is more robust in habit than either, full of foliage, and stronger than the former, with a greater number of pinnulæ than the latter.

Mr. Rivers' Catalogue of Hardy Trees and Shrubs for 1840 has already excited so much interest and attention, that we need not notice it, further than to say, that the objects and interests of tradesmen often run counter to the principles of science; and,

ON THE TREATMENT OF THE HYBRID CHINA ROSE. 183 indeed, when inviting others to join in its wake, it may not always be prudent to assume the lofty attitude which the principles of science itself would prescribe.

EDITOR.

ON THE TREATMENT OF THE HYBRID CHINA ROSE, ESPE-CIALLY WITH RESPECT TO PRUNING.

BY ROSA.

Lest others fall into the same error as myself, I shall take the liberty of sending you a few lines on the culture of the Hybrid I purchased thirty sorts about three years ago, the ground in which they were planted was prepared at great expense, by trenching deep, and manuring, liming, &c. It was also drained, and screened with banks and trees, to afford shelter; all this was done in order that full and complete success should be the result. obtained my plants about the end of February, and planted them immediately, and covered round the stems with short manure, to protect them from frost and draught in the summer; and as soon as they were planted, I pruned them well back. Having thus minutely described the method I pursued, others who wish to avoid falling into the same error, will be best enabled to do so, by knowing the plan which I followed. The whole of the above treatment was, in every respect, calculated to produce the most satisfactory results, with the exception of pruning; this was quite Hybrid China roses ought not to be shortened back. The shoots may be thinned out, and in doing so they should be cut quite away. To avoid even thinning out, I weed and thin the shoots in summer, when they are forming, in order to prevent cutting or thinning in winter. I find that they require frequent supplies of manure, and unless well attended to in this way, they do not flower well.

Should you deem the above remarks worth inserting in your Magazine, I shall probably trouble you again.

ROSA.

[We shall be willing to submit to the trouble,-ED.]



ON PRESERVING CAULIFLOWER THROUGH THE WINTER.

BY A PRACTICAL GARDENER.

Amongst gardeners, the practice of storing Cauliflower during the winter, is by no means common, and, perhaps, not generally known, at least its advantages. Having a large family to supply with vegetables, every plan that can be adopted, either to multiply or prolong the kinds, is, of necessity, resorted to. One of the most valuable resources which I have been enabled to provide for this purpose, is that of Cauliflower, planted out about the middle of July, so as to form heads late in the season; these I lift just before I anticipate the first autumnal frost. I prepare in one of the back shades a quantity of dry garden earth, and on the floor I lay the Cauliflower in rows, having lifted them with balls of earth round their roots, and having also cut away many of the outside leaves, and shortened the remainder. They are then laid against a row of earth, close to each other in the row, and nearly flat; the roots are then covered with earth, and well watered; on this earth is again laid four or five inches of the dry soil, thus the roots are placed in wet earth, over which is placed that which is less so to prevent damp. In this way I have kept Canliflower till February and March. The plants are covered in frosty weather with straw, fern, or long litter.

A PRACTICAL GARDENER.

REFERENCE TO PLATE XLVI.

SAPONARIA CALABRICA, Calabrian Soap Wort.

NAT. ORD. CARYOPHYLLE &, CLASS DECANDRIA DIGYNIA.

This is an exceedingly pretty annual, seeds of which, we hope, will be sent out during the present spring. The flowers are but small, but they are produced in great profusion, and for a long period. It comes into bloom about June or July, and coatinues in flower till destroyed by the autumn frosts. The habit of the plant itself is peculiarly interesting and beautiful, growing, as it does, in a compact, round, bushy form.

The plant in question is nearly allied to the S. ocymoides, and spreads over the surface of the ground much in the same manner as that species.—For the fronts of borders, or rock work, it is peculiarly desirable.

Saponaria Calabrica will flourish in any common soil or situation, and generally produces seed freely; but to guard against disappointment in this particular, a plant or two may be potted, and have protection when required. This is an exceedingly pretty annual, seeds of which, we hope, will be sent



or veri Callette If sown in the borders in the latter part of April, it will flower in August, and continue in bloom till the setting in of the winter.

Saponaria has been so named from the Latin Sapon, which alludes to a peculiar alkaline, or saponaceons quality, possessed by one or more of the species.

SALVIA.

NAT. OBD. LABIATEÆ, CLASS DIANDRIA MONOGYNIA.

The genus Salvia has many claims on the attention of those who admire showy flowers, and some recent additions to the genus have again brought it into notice. There are but few plants of any genus equally ornamental, and equally free in growing and in producing bloom; and all the species, with only one or two exceptions, are remarkable for their free growth and abundance of bloom.

RONDELETIA ODORATA, Sweet-scented Rondoletia. Rondoletia Speciosa is its Nursery name.

NAT. ORD. RUBIACEÆ. CLASS PENTANDRIA MONOGYNIA.

It is not our custom to give figures of stove plants, except in cases such as the present. The habit of the plant being dwarf, and the flowers large and showy, we therefore consider this a very desirable and interesting species, capable of being contained in a small stove for many years, as it does not, even in its native country, attain to more than five or six feet in height. The stems are rather slender, and rigid with opposite oval leaves; the flowers are produced in large clusters, at the extremity of the shoots, and are of an orange-colour. In popular description, we might say the shape of the cluster, as well as the form of the individual flowers, resemble the common Hydrangea. It is a native of the West Indies, found on bush covered rocks near the sea, and in its native situation it is odoriferous, hence the specific name; but in its cultivated state, this property is scarcely perceptible. The plant from which our drawing was made, flowered in the Nursery of Messrs. Fisher. Holmes, and Co., near Sheffield. The species of this genus are generally of slow growth, and do not succeed even in summer in any but an high temperature. The soil best adapted for this plant is sandy loam, with a little peat.

NOTICES OF NEW PLANTS.

ERYSIMUM PEROFSKIANUM, Orange-flowered Hedge Mustard.

Paxton's Mug.

NAT. ORD. CRUCIFERÆ. CLASS TETRADYNAMIA SILIQUOSA.

This desirable plant was introduced into this country in 1838, from Dr. Fischer, of Petersburgh, and is now to be met with in many of our collections. It is a plant highly worthy of cultivation for the flower border, where it will continue to display its beautiful orange-coloured spike of flowers all the summer; it bears a close resemblance to the common wall flower, and may be readily taken as a very splendid variety of this old inhabitant of our gardens. The drawing was made from a plant that bloomed during the whole of last summer, in the Nursery of Messra. Rollisson, of Tooting.

DIPLOPETTIS HUGELII, Baron Hugal's Diplopettis.

Bot. Res

NAT. ORD. SAPINDACEÆ. CLASS POLYGAMIA MONŒCIA.

A hardy greenhouse shrub, raised from seeds by Mr. Andrew Toward, gardener to Her R. H. the Duchess of Gloucester, who obtained them from the Swan River. It grows about three feet high, and flowers in April and May; it requires the same treatment as Cape Hebenstreitias, and may be

planted in the open border in summer. "What gives this plant a very great interest, quite independent of its pretty appearance, is the difficulty of determining, in a satisfactory manner, its natural affinities. It is one of those anomalous forms which stand intermediate as it were, between more distinctly marked forms of structure, connecting them with each other, but not very obviously corresponding with any."

LOBELIA IGNEA, Flame-coloured Lobelia.

Pax. Mag.

NAT, ORD. LOBELIACE ... CLASS PENTANDRIA MONOGYNIA .

"The superb new Lobelia, of which the figure, though accurate, is but an imperfect representation, on account of the inimitable brilliancy of its deep southet flowers, was received in England in 1838, from Mr. Makoy, of Liege. It has been doubted by many whether it be not an hybrid production; but we are credibly informed, that seeds of it were originally obtained from Mexico." Amongst the new half hardy herbaceous plants which have been lately added to our collections, including the far-famed Salvia Patens, which has been by no means too highly recommended, is in real value, inferior as an ornament in the flower garden to the L. Ignia, which is much more abundant in blooming, and retaining them longer upon the stem-six or eight in general being open at once, whereas Salvia Patens seldom has more than two or four unfolded at one time on the same stem. It is readily propagated by suckers, which are abundantly supplied from the roots, which, if carefully taken off, potted in a light sandy soil, and plunged in a little bottom heat in a close frame, will, in a few days, make good plants, and may be gradually exposed to the air until they may be put in a cold frame or other convenient To preserve them during winter, care must be taken to keep of damp and frost, by placing them as nigh the light as possible, and to be very sparing with water.

ARBUTUS LAURIFOLIA, Laurel-leaved Strawberry Tree. [Bot. Reg.

NAT. ORD. ERICACEÆ. CLASS DECANDRIA MONOGYNIA

The plant from which this was taken, was 'given by the late Lord Napier, who introduced it from Mexico, to Mr. Lambert, who is of opinion that it is the true A. laurifolia, of Linnous' Supplement.

ARISTOLOCHIA CAUDATA, Livid-flowered Birthwort. [Bot. Mag.

NAT. ORD. ARISTOLOCHIEÆ. CLASS GYNANDRIA HEXANDRIA.

The plant from which the figure was taken, produced in rich abundance its various flowers in the hot-house at Woburn Abbey, during the month of May, 1839. It was raised by Mr. Booth, gardener to Sir Charles Lemon, at Carclew, Cornwall, from seeds received from Lieut. Wright, of H. M. packet ship Hope. It is readily distinguished from A. triloba, from the extraordinary length of the tail and upper lip, in relation to the tube of the corolla. See Betanical Register, 1399.

MILTONIA CANDIDA, White lipped Miltonia.

Pax. Mag.

NAT. ORD. ORCHIDE ... CLASS GYNANDRIA MONANDRIA

Dr. Lindley observes in his Sertum Orchidaceum, that this is one of the most noble of its race, and is scarcely rivalled by any of the beautiful species of Dendrobium or Cattleya." The flowers are richly mottled, and the delicate white of the labellum at once arrests the eye with emotions of delight.

PENILANDIA MINIATA, VAR. 2 SULIVANICA, Red-lead-coloured Pentlandia, Commodore Sulivan's variety. Bot. Reg.

NAT. ORD. AMARYLLIDACÈÆ, § OPORANTHIFORMES. CLASS HEXANDRIA MONOGYNIA.

"The first variety of this bright-coloured plant was found at Quispicancha, near Cusco, in Peru, and sent to Spofforth under the name of Red Nascissas, by J. B. Pentland, Esq. H.B.M.'s Consul General, together with several other bulbs (some of which are apparently of the same genus) and seeds.

amongst which were those of the splendid Erythrina, called Pisonai by the natives."

CÆLOGYNE OCELLATA, Eyeletted Cælogyne.

[Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This very beautiful Epiphyte flowered in the collection of John Allcard, Esq. of Stratford Green. Dr. Wallich says that it is a native of Silhet, and of the Sermore Mountains, of the East Indies, and first introduced to this country by Mr. Loddiges.

LIPARIS WALKERIÆ, Mrs. Colonel Wulker's Liparis.

Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA.

This plant, possessing more interest to the Botanist than beauty, flowered in the stove of the Edinburgh Botanic Garden; it is a native of Ceylon, and was introduced to this country in 1834, by Mrs. Colonel Walker, a liberal and zealous cultivator of botany.

GRAMMATOPHYLLUM MULTIFLORUM, Many flowered Letterleaf.

[Bot. Reg.

NAT. ORD. ORCHIDEZ. CLASS GYNANDRIA MONANDRIA

This noble orchidaceous plant was discovered by Mr. Hugh Cuming, in Manilla, who sent it to his customers in England; the figure was made from a specimen sent by Mr. Bateman, in whose valuable collection it flowered in May, 1838, supposed for the first time in this country.

EPIDENDRUM CEPIFORME, Onion rooted Epidendrum.

Bot. Mag.

NAT. ORD. ORCHIDEÆ. CLASS GYNANDRIA MONANDRIA

Another new species of Orchideæ, sent home by John Parkinson, Esq. H.B.M. Consul at Mexico, who sent it from that country in May, 1838, and added to the Woburn collection, where it produced its blossoms.

THYSANOTUS INTRICATUS.

Figured and described in Floricultural Magazine.

TULIPA MALEOLENS, Strong smelling Tulip.

Bot. Reg.

NAT. ORD. LILIACEÆ. CLASS HEXANDRIA MONOGYNIA.

This rare Tulip is found in the fields and vineyards near Florence, under S. Miniato, and at a greater distance and in quantity at S. Margherita. The flower isof a deeper red than in S. Oculus Solis and Precox, and sometimes exhaling a weak and unpleasant amell.

PLANTS NOTICED BUT NOT FIGURED IN THE Bot. Reg.

DICRYPTA DISCOLOR.

A handsome species, bearing orange coloured flowers, remarkable for the deep purple colour of the underside of the leaves—imported from Demerara by Messrs. Loddiges.

OCTOMERIA DIAPHANA.

A native of Brazil, from whence it was imported by Messrs. Loddiges. A small but pretty species, with white transparent scentless flowers.

FERNANDEZIA LUNIFERA.

Imported by Messrs. Loddiges from Brazil, where it is said to grow upon trees, forming tufts of verdure, which seen at a distance resembles the box of this country; it is quite a new species, resembling elegans in its foliage, the flowers are differently formed and thrice as large.

MAXILLARIA ACUTIFOLIA.

In the collection of Messrs. Loddiges, resembling M.rufescens, and having brownish orange coloured flowers of little beauty. A native of Demerara.

ONCIDIUM FORBESII.

A splendid species, bearing a resemblance to Oncidium crispum, but much more beautiful; the petals are gaily edged with bright yellow, and some of the petals barred with the same colour, its large panicle making a very gay appearance.

ONCIDIUM EXCAVATUM.

A very fine Peruvian plant, with yellow flowers, spotted with brown, which lately flowered in the collection of Messrs. Loddiges.

CŒLOGYNE ELATA.

A fine species, bearing white flowers, sent by Dr. Wallich to the Gardens of the Horticultural Society, where it has lately flowered.

BATATAS BETACEA.

A native of Demerara, from whence it was accidentally imported by a root (which is tuberous) being found among some orchidaceous plants; it is a very handsome twiner, and seems likely to rival the Ipomæa Horsfalliæ, the flowers being of a very delicate violet, with a much deeper purple eye. The root is exactly similar to beet root, with the same purplish red colour. "The gardener to Mr. Waterhouse says that it is a most profuse bloomer, and prefers the coolest part of the plant stove. He states that he tried two plants of it, the one at the cool end near the door and farthest from the fire, and the other at the warmest end, and nearest the fire; in the former of which he finds it succeed much better, and bloom more freely than at the end nearest the fire. From this circumstance, he thinks, it will be a greenhouse and not a stove plant. Since it has been in my possession, I have had it in various situations, and I find that it prefers a greenhouse where it has plenty of air; but having had it only two months during summer, I am not authorized in saying it is decidedly a greenhouse plant."

ODONTOGLOSSUM CLOWESII.

A very handsome species, bearing a flower stem about a foot high, terminated by four or five large starry yellow flowers, moutled with brown, sent home a few years ago to the Rev. J. Clowes, of Broughton, from the Organ Mountains of Brazil.

CATASETUM LONGIFOLIUM.

Commonly known as the long leaved Catasetum, which never flowers, but which, from the good management of Valentine Morris, Esq. of the retreat, Battersea, has produced abundance of blossoms. The flowers are of a bright orange, edged with violet, extremely beautiful, beyond comparison the handsomest of the genus.

PLEUROTHALLIS SCABRIPES.

A curious little plant, with very small flowers, of a dull dingy yellow streaked with reddish purple lines.

REVIEW AND MISCELLANIES.

Annual Summary.—A very interesting article is headed thus in the Gardener's Magazine, being a summary view of the progress of Gardening and Rural Improvement generally in Britain during the year 1839.—With reference to the Climate and Temperature we find the following: "This

month (January, 1839,) was remarkable for a hurricane, the violence of which was perhaps as unprecedented in this country as was the severity of the frost in the corresponding month of 1838; for the latter killed various species of vegetation that had survived for centuries, and the former threw down trees that had existed in parks and forests for as long a period." speaking of the temperature of the Spring months, the writer observes, that the common almond came into blossom on the 12th April, whilst in 1834 it was in bloom on the 1st February, being a difference of 81 days. "In the neighbourhood of London, two inches are about the average quantity of rain for a month." It is also said that the dwarf apple trees suffered much more in the neighbourhood of London than standard trees, which in many instances bore excellent crops of fruit, whilst dwarfs of the same kind, and growing in the same situation, completely failed. With respect to flowers, it is remarked that owing to the wetness of the season, many kinds of annuals, and halfhardy perennials have failed in producing their usual display of bloom. We think it right to mention this by way of encouragement to those who may have been disappointed with these plants. In Summers more favourable and sunny, no plants reward the trouble of cultivation with better interest than annuals and soft wooded and free growing green house plants, such as Salvias, Verbenas, Geraniums, Fuchsias, and similar plants. These generally, when the seasons are at all favourable, continue in one unceasing sheet of bloom from Midsummer till destroyed by the Autumn frost. It is also observed that a taste is beginning to revive for the cultivation of the Chrysanthemum; and notwithstanding the wet and ungenial season, it has bloomed in favourable situations, when trained against a wall. The China rose is supposed to have flowered finer this season, unless the gay appearance which they have display d is accounted for by the great number of new varieties originated in this country, and introduced from France.

In remarking on Culinary Vegetables and Agricultural Crops, it is stated, that Covent Garden Market was never better supplied with vegetables than during the present year. Potatoes in ordinary soils are an inferior crop, but

in dry light soils they are above an average crop.

Trees and Shrubs are said to have benefitted by the wetness of the season, and the writer concludes by saying that "in general it may be inferred, that the annual increase of a tree will be as the quantity of rain that falls during the Summer months; and that timber trees, instead of being injured by such an excess of rain as proves hurtful to fruit trees, flowers, culinary vegetables,

and agricultural crops, are benefitted by it."

Under the head of history, description and critical remarks, there are some excellent observations. The advantage of visiting and comparing one garden with another, is strongly urged upon the attention of amateurs and young gardeners; also that they should endeavour to account for the difference between one and the other. But the following remarks, we think, are peculiarly deserving of being remembered, not only by amateurs, gardeners, and those who possess gardens, but by all who even visit them. The editor observes "it is a great mistake to suppose that taste is solely a matter of the fancy, whim, or caprice of the individual. Every thing in a garden, which is referable to taste, is as much a matter of reasoning, judgment, and experience, as those matters which relate to culture; and the disposition and outline of a flower bed, ought to be such as can be accounted for on rational principles, no less so than the particular mode by which any species of tree is pruned or trained. When the object is to be obtained, equally well by more ways than one, as for example, when it will be equally suitable to lay out a flower garden in a system of circles, ovals, or of squares, then the preference given to one of these figures over the others, constitutes the taste of the individual. and in so far it may be said to depend on his fancy; but whatever taste may be adopted, it must be governed by the laws and rules of the composition of the lines and forms, which have no more dependence on the taste of the individual, than the laws and rules of grammar have on the subject of a discourse." We are glad to have met with the above remarks, and also to have an opportunity of giving them additional circulation; the necessity for these remarks prove how much the general taste is behind in all matters connected

with gardening. This will be understood by comparing the refinement and taste displayed in the arrangement of furniture, the slightest impropriety in the disposition of which could be readily pointed out by those whose accomplishments scarcely reach mediocracy. The footman or scullery maid, for example, could fasten the drapery round a window, as securely as the most experienced upholsterer, and so could the stable boy mark out beds, walks, or borders, in the flower garden, with as much despatch as a landscape gardener of the greatest experience, and refined taste; and, very probably, in the latter case, the accidental effort of the stable boy would please nineteen persons in every twenty; yet, in the former, where the principles of taste are much better understood, scarcely one in an hundred would expect that any but an experienced and practical upholsterer could adjust with becoming taste the costly drapery. Were this not the case, the proprietors of gardens would no more trust their arrangement to the novice, than the lady of the house would the cutting and arranging of her drapery, or the designing of new patterns for chairs and tables, to her maid of all work. In speaking of public gardens, it is remarked that although the taste for these is by no means active, yet it is not altogether dormant, and the following are in course of formation or have just been finished. The Kent Zoological and Botanical Gardens have been opened during the past year, and a Botanic Garden has been commenced at Bath. It is also in contemplation to form Subscription Gardens out of part of the Park at White Knights; and Mr. Page, of Southampton, is now engaged in laying out and planting an Arboretum for Government, in the New Forest, in Hampshire. The Royal Botanic Society of London have obtained a Charter of Incorporation. An Arboretum, of eleven acres, has been laid out at Derby, by Mr. Loudon, and solely at the cost of Joseph Strutt, Esq. who intends, as soon as it is finished, presenting it to the town. It is also observed that, "the chief circumstance to be regretted respecting public gardens, is the very inefficient manner in which they are commonly kept up. We scarcely know of a public garden in Britain that is not suffering from this cause, and we know but one effectual remedy for this evil; which is, to establish such gardens at the expense of the town or the county in which they are situated, and to support them by municipal or county taxes" Some of the principal causes which operate against the efficient support of public gardens are the following: The necessary evil of an annual change in the committee of management; their number being generally too great, hence their irregular attendance at meetings, and individual irresponsibility with its consequences, such also as frequent change in the rules and management, occasional want of faith with subscribers, inconsistency of purpose, strong and extreme opinions of individual members entertained and industriously published, to the prejudice of the majority of their colleagues and the institution with which they are connected. Such are some of the leading causes, out of which are continually arising an endless succession of minor evils. No part of this ought, nor can it, indeed, be justly charged against the Directors, except in their collective capacity, and in so far as they permit themselves to become members of a Board, or Council, where it is immaterial whether they attend or not, and where it very frequently happens that the spirit and intention of the resolutions passed at a previous meeting are altogether misunderstood by those members who attend the next, and counter resolutions, either rescinding or neutralizing those previously passed, become a natural result. The only mode of meeting this is to place the management and direction in the hands of not more than three gentlemen, who should have the entire direction. Another error into which all public gardens have fallen is, their magnitude. Those at least at Sheffield, Manchester, and Birmingham, contain thrice the quantity of ground that is requisite, and every purpose would have been answered had they been less than half their present size: they might then be more highly finished, and the ground, instead of remaining a monotonous flat surface, rendered interesting by varying its outline, and rendered instructive by following up the professed purposes of such institutions, and rather than expending the whole of the labour on the ordinary operations of mowing, hoeing, &c., the nicer experiments and practices of the art should be carried out and exhibited

for the amusement and instruction of those who may feel an interest in the subject. But this cannot be the case when the amount of labour is so circumscribed, as is the case with all the Botanical Gardens of which we happen to know any thing.

In our Remarks on Cassiobury Park, we omitted to mention a circumstance related to us by Mr. Buckingham, the gardener, namely, that Psonia Moutan var. panperacea has been found there to be much hardier than the original species, Moutan. This is an encouragement to hybridize and raise new plants of all kinds by cross fertilization. Varieties obtained by this means from tender plants are certain to be hardier than their parents. Another singular fact was pointed out to us: about 50 seedling plants were raised from the Irish yew, and only two displayed any affinity to the habit of the parent, and this in a very slight degree. This shows in a very forcible manner the instability of accidental varieties, and the tendency of their seminal offspring to revert back to the habit of the original parent.

Food From Sea Ware.—A few years ago, a paper, by Mr. J. Brown, jun, of Haddington, was read to the Society for the Encouragement of Useful Arts in Scotland, concerning a vegetable principle, which, it was maintained, could be extracted from the common Sea Ware, growing so abundant on the British coast, and which, by a little ingenuity, might be converted into invaluable food for cattle and mankind. This proposal created a considerable sensation at the time, and was favourably reported of by a respectable Committee of the Society; and as it must be universally a subject of regret, that a really useful prospect should be blighted and forgotten, we shall endeavour to restore the one in question to popular attention, and promote, if possible, its practical application.

That these Sea Wares (fuci taugles) luxuriate, in the richest abundance, in almost every part of our rocky shores, is a fact too generally known to be insisted on; and it was a circumstance that our ancestors did not fail to

improve.

From them our soda, chlorine, iodine, and kelp, used formerly to be procured; and from this last article especially, till obtained more readily from other sources, there flowed much wealth to the manufacturer, and large fortunes to the proprietors.

Were Mr. Brown's anticipations to be realized, our sea weeds, as they are designated, would yet become more profitable to their owners, and more

useful to the community than they have hitherto been.

Various circumstances lead to the supposition that the fuci might contain the elements of wholesome and substantial food. Our Irish brethren eat theis Carrageen, and Scotsmen their Dulce; and the former of these F. endeviæfoliur is now well known over the country, by-the name of "Irish Moss," as a nourishing and easily-digested food for invalids: as to cattle, again, we are told, that in Orkney they are in the habit, of their own accord, of descending to the sea side for the purpose of devouring them; and in some parts of our coasts, it is a common practice to mix Tangle with their ordinary food. If, improving upon these hints, we appeal to the chemical analysis, we are speedily instructed that sea Ware contains, in large quantities, a vegetable principle of deservedly high estimation. This ingredient, by some chemists, has been regarded albumen (a familiar instance of which is exhibited in the Whiteogan Egg), and by others as vegetable jelly (gelatina;) but Mr. Brown, following in the footsteps of others, has very successfully shown that these opinions are erroneous, and that the principle is identical with the mucilage contained in the roots of the marsh mallow, or the pericarp or seed-vessel of linseed. Mucilage, we may here remark in passing, is very generally regarded as a mere watery solution of gum arabic; but this appears to be a mistake, for the so designated mucilage of the chemist and pharmocopolist quickly acidifies and moulds, whilst true mucilage has the valuable property of never doing so. As to the quantity of this principle, Professor John states that one of the tangles, F. vesisculosus, contains 750 parts in every 1000; a statement Mr. Brown considers exaggerated: whilst, according to his own researches, another

kind, F. Salmatas, yields by infusion about half its own weight of the principle in question. Some, it is ascertained, supply more than others; but such large proportions is so exuberant a production, procurable at a cheap rate, is invaluable.

As good mucilage for feeding cattle, the food should be prepared on an extensive scale, as follows:—Let the tangle ware be bruised by some rude machine; macerate a day or two in water, acidulated by vitriol; wash well in cold water; boil some hours in three or four times its own weight of water; strain; evaporate the decoction to a thick ropy consistence; mix with bran, and put up in cakes. These cakes, after being dried, keep for any length of time, and may be given to cattle in the same way as lineed-cakes, broken and mashed with warm water. The decoction might also be evaporated to dryness, and transported, in the form of cakes of mucilage, or it might be dispensed from the manufactory" as dry as from the distilleries.

A second proposal is that the mucilage should be converted into gum arabic, and applied to the purposes to which this article is employed. To procure the mucilage in a perfectly pure unmixed condition, the following formula will be found adequate; bleach some of the fusi by expoure to the sun; bruise them; macerate a day or two in often changed acidulated water; boil half an hour in an extremely attenuated aqueous solution of sulphuric acid; agitate the decoction with animal charcoal, a little carbonate of baryle and a little litharge. Filter, and co-operate over a warm bath. After powdering the mass obtained in this way, and washing it with alcohol, fine mucilage is procured, and this, when boiled long with sulphuric acid, becomes displaced on the supposable of the context of the supposable of the suppos

similar to, or rather identical with, gum arabic.

Gum procured in this way would serve all the purposes of foreign gum arabie, and from its cheapness might be applied to a host of others. This substance would then probably not be so little in use as an article of diet in this country, seeing its nutritious qualities are so well attested by the Moors of the Desert subsisting upon six ounces a day for weeks together. Why then should so many of our c: untrymen bear the signs of famine in their eyes, and be continually exposed to the temptation of monal and political defection, whilst treasures of such wholesome food lie scattered in such kind profusion on our shores? We can perceive no reason why advantage should not be taken of this mucilaginous matter growing indigenously and so abundantly in our island. We might thus save another of its native products from the obloquy of uselessness, create another object of industry for some of its unwilling idlers, and erect another defence against the melancholy invasion of scarcity or famine.

The notice of the metropolitan nurseries, by our esteemed and valued Corespondent, which has appeared regularly during the past year, will now be discontinued, and this department we shall in future attend to ourselves, having purchased the stock in trade of an established nursery at Huckney. We trust by the facilities which will there be afforded us, to be enabled to render the Floricultural Magazine much more interesting than it has hitherto been. Local information, however valuable, is circumscribed in circulation, and never becomes expansive until it reach the metropolis. As it will be our endeavour, as far as possible, to render the floricultural department of the establishment on which we are about to enter, famous for new plants, seeds, and fancy articles of every kind connected with gardening, any of our friends of subscribers who may obtain any thing new either in seeds or plants, whether hardy green house or stove, we shall be glad to hear from, with the view of making the fact known through the medium of the Magazine; or if to sell, or give in exchange for other plants, we shall in either case be equally glad to treat with them.

After the 1st of January next, we shall feel obliged to all our friends and correspondents to address to us, at Hackney, near London.

THE

FLORICULTURAL MAGAZINE,

AND MISCELLANY OF GARDENING.

NO. XLV.—FEBRUARY, 1840.

ORIGINAL COMMUNICATIONS.

ON THE CULTURE OF THE PINE APPLE.

BY J. M.

The culture of the Pine Apple may be said to constitute one of the principal features of modern gardening; and in the present day there are few places of any note, where there is not some convenience to supply the dessert with this king of fruits, which Jean de Leary describes to be of such excellence, that the gods might luxuriate on it, and that should only be cut by the hand of a Venus.

The Pine Apple is considered to be a native of South America, having been first discovered in Peru, where it is called Nanas, and from thence introduced to the West, and afterwards to the East Indies. Its earliest mention is by Gonzola Hernander de Ovieda, in his earliest History of India, printed in 1513, and subsequently by various European travellers and foreign residents; the exact period, however, of its introduction to Europe is not known, but it is believed to have been about the middle of the seventeenth century. In our own country, it was first cultivated in the garden of Sir Mathew Decker, at Richmond, about the year 1710, although the Hortus Kewensis states it to have been introduced so early as 1690, by a Mr. Bentick, but in that case it can only be viewed as a botanical variety.

Of so excellent a fruit, it cannot be wondered that the varieties are numerous; the Encyclopædia of Gardening contained fifty-two kinds in 1835, but several of these are merely synonymous, and some few not worth growing. A very excellent classification has been drawn up by Mr. Monro, and published in the Horticultural

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Transactions, to which the reader may refer. I will content myself with briefly describing the following varieties:—

1. Queen, (Sym. Old or Common Queen.)—Leaves short, stiff, and mealy; spines strong and remote; flowers lilac; fruit cylindrical, three to five pounds weight; pips small, prominent, deep yellow when ripe, high flavoured, and, for ordinary purposes, the most valuable of all Pines.

2. Ripley Queen. Slight variety of the former, with broader clear green

leaves; an excellent variety, and much grown.

3. Lemon Queen, (White Barbadoes, Barbadoes Queen).—Leaves broad, short, channeled, often involute, mealy; spines, on an average, seven to an inch; fruit ovalish, three to four pounds; pips broad and flat, not adapted for winter forcing.

4. Black Jamaica, (Montserrat of some).—Leaves very long, marked with purple; rather mealy; spines minute and regular; flowers purple; fruit somewhat pyramidal, three to five pounds; pips very large and flat; brownish yellow when ripe; flavour excellent. A most valuable Pine, and particularly adapted for winter fruiting.

6. Enville.—Leaves broad, strong, sharply pointed, and very mealy; spines thickly set; flowers lilac; fruit pyramidal, four to seven pounds; pips large and prominent, of a brownish red colour; flavour excellent, next

to the Queen, the most valuable in cultivation.

6. Green Antigua, (Smooth Green Antigua).—Leaves long, narrow, and very brittle; spines few or none; flowers lilac, nearly white; fruit large and globular, three to five pounds; pips flat, broad, rich yellowish green when not over ripened; flavour excellent. This kind ranks among the best of Pines.

7. Brown-leaved Sugar Loaf, (Mocha, Antigua Sugar Loaf of some).— Leaves broad, dark green, tinged with purple; spines medium size; fruit pyramidal, three to five pounds; pips large; dark yellow, inclining to

orange; exceedingly high flavoured.

8. Black Antiqua, (Brown Antiqua of Speechly).—Leaves very long, narrow and sharp pointed; inner ones much tinged with brown; under surface very mealy; spines large, remote; fruit inclining to oval, four to six pounds; pips very large and prominent; dark ochre coloured when ripe; juicy and high flavoured. One of our best Pines, but it is liable to crack and even decay on the plant, if not cut in time.

Others might be mentioned, as the Providence, Trinidad, &c., remarkable only for their size, together with several varieties of Queen, Antigua, and Sugar Loaf, possessing high qualities; but as a collection of these plants is seldom attempted, and, as those described above are quite adapted to answer every useful purpose, it is needless further to enumerate them. As a selection, the Queen and Enville are the best for ordinary purposes, producing fruit, under good management, in the short space of from ten to eighteen months. The Black Jamaica and Antiguas are excellent kinds, but as they in common with those usually designated Black Pines, require a somewhat higher temperature, and require longer time in arriving at a fruiting state than the Queen, they are usually cultivated in a separate structure, where their peculiarities of culture can be fully attended to.

Having gone thus far, I shall reserve the culture of the Pine

for a series of papers, of which this is the commencement. I will then notice the structures best adapted to their growth, and gradually pursue my course through the several departments of the Nursery pit, the succession and the fruiting stove, &c.

J. M.

[The Black Jamaica of the Southern Counties is the Montserrat, of Yorkshire and many parts of the North. This is one of the best, if not the very best variety that is grown, whether for summer or winter, and swells and ripens its fruit nearly equally at both seasons.

We may just observe with reference to the Enville, since our Correspondent's anxiety for brevity has induced him to omit stating it, that while the Enville is an excellent, and, indeed, one of the best kinds for summer, it is also one of the most worthless when ripened in winter.

The fature papers to which our Correspondent refers relative to the cultivation of the Pine, will, we have no doubt, be welcomed by our readers; as we are sure from the clear and distinct manner in which [J. M. communicates his ideas, the subject will be treated in a pleasing manner. We should be particularly gratified to be favoured with J. M.'s address.—
ED.]

ON THE CULTURE OF THE CUCUMBER. (Cucumus Satious.) BY JOHN M'EVOY.

In writing on the culture of the Cucumber, it is difficult to point out which of the many systems are the most to be relied Some that are excellent in their way cannot be generally recommended, because many gardeners and amateurs do not possess the necessary means of carrying them out. The system I which I shall detail is within the reach of most Cucumber-growers. and I know of none that will so certainly repay the necessary care. Every gardener will, of course, be guided in his operations by the season that Cucumbers are required for table; and their production at an early season is the pride of every gardener. Many sow their seeds about the 15th of November, to produce Cucumbers by the first week in March. I have done so; and I have also sown again in the first week in December; but I have cut fruit as soon from those sown in December, as from the seed sown in November-Let the time of sowing be November or December, as the case may be. The site chosen for the hot-bed should be well sheltered from the N.E. winds, suppose a frame of one or two lights. excavate the earth about fifteen inches deep, allowing the necessary room for the linings. Mark the length and breadth of the



frame, by drawing four stakes, one at each corner, and in the site of the frames thus dug out, lay faggots to the height of three feet, allowing them to project three or four inches all round. Over the faggots lay one or two hurdles, and on the hurdles build a layer of half-fermented leaves, one foot deep. Place the frame on this, with a good inclination towards the South. If slates or flat tiles are at hand, cover the surface of the leaves with them;—they will act as a sort of dry flue in absorbing the excessive moisture. Cover the slates with two or three inches of dry sand or sawdust. The steam that condenses on the glass will be absorbed by the saw-dust or sand.

This I would strongly recommend, having found by experience that in early forcing it is of great importance. By this treatment the plants will not maintain that apparent vigour of foliage usually found in plants grown in a more humid atmosphere; but the plants themselves will be much hardier, and will bear more cold, and come earlier into fruit than they would otherwise do.

That the plants are hardier when thus treated, I find corroborated by my diary, where I perceive the thermometer, on the mornings of the 20th Jan. 1837 and 1838, indicated 26° of frost. thermometer in the Cucumber-bed stood at 40° Fahrenheit. linings being chilled by the continued frost, I filled two stone bottles, each holding about one gallon, with hot water, renewing the water morning and evening; by which means I not only kept the plants alive, but in good health. I did not take the mats off the frame for ten days, merely pushing the lights down to take the bottles in and out. Had there been much damp in the frame, I need not say my plants must have damped off. Before the frame is put on, it should, together with the sashes, be washed with soap and hot water, to destroy the eggs of animalculæ; and this should, if possible, be done three or four times, not only in the seed-bed, but in the fermenting-bed. A good lining should be immediately applied, and the glass matted over, to draw up the heat quickly. The seed also may be sown, as it will germinate more naturally; a point too often overlooked by Cucumber-growers. The seed should be sown in 48-sized pots, half filled with equal parts of light loam and leaf-mould, two seeds in each pot, covered an inch deep. The pots should be placed an the surface of the bed, and when the plants appear above ground, 🕏 they should be brought to within three or four inches of the glass. and placed on inverted pots. When the plants are in rough leaf, the pots should be filled to the surface with mould that has been previously aired, also give a little water; a bottle should be kept in the frame for that purpose. Water should be given as seldom as possible, and with caution, being careful not to put it against the stems of the plants, but round the margin of the pot. Air should be given every favourable opportunity, that is, if the thermometer exceed 70 degrees, and the day mild. In sunshine admit it more freely; be cautious in not giving too much at once. as the cold air may rush in and chill the plants, to avoid which. nail a slip of cheesecloth on the top of the sash, and let it fall over the aperture, to be secured at the bottom with tenter hooks. The air filtering through will be softened before it reaches the foliage of the plants; stir the sand or sawdust occasionally, to bring up the heat. The fruiting bed should be in readiness to receive the plants as soon as they are fit. The bed for fruiting can be on the same principle as the seed bed; let it be made of blocks of wood, roots of trees, &c. laid in pigeon hole fashion. Lay on the hurdles one foot thick of leaves, which will prevent the ingress of rank steam; under the centre of each light set one or two large slates, which will prevent all danger of burning the roots. Lav a ridge of the following compost, (which should have been kept dry for the purpose) along the centre of the bed :- One half turfy loam. and equal parts of leaf-mould and rotten dung or tan, well mixed but not sisted, about ten inches from the glass. When the thermometer ranges from 70 degrees to 75 degrees with air, the bed is in a fit state to receive the plants. In choice of plants, select such as have clear stout stems, with foliage free from deformity, and white spurs along the stem, which are embryo roots. One plant will be sufficient for each light. I would recommend, at an early season, instead of turning the plants out of the pots, as is usual, to break the sides of the pot, and retain the bottom. Set the plant in the hole, draw the mould lightly and carefully round the ball and half way up the stem, give a little water from a pot having a fine rose, but avoid wetting the stems. If the sun shines powerfully, a partial shade will be necessary for two or three days, but by no means continue it: every ray of light should be caught at this season. To counteract the effect of sunshine on the plants,

give air in proportion. If the thermometer ranges from 70 degrees to 75 degrees in dull weather, from 80 degrees to 85 degrees in sunshine, with the same air, will not hurt them. But beyond that give a little air in proportion, put on the guard, as directed for the seed bed, or else a sudden shifting of the wind may destroy the Stir the surface soil occasionally, and the effect will soon be apparent. If the plants have not been stopped in the seed bed, do it now, at the third joint, as the plants sooner become fruitful, than when stopped at the first or second joint, each of which shoots should be again stopped at their third joint. All male blossoms that appear should be picked off, also fruit blossoms, if any, which will add vigour to the plants, stop again as before, and fruit will hardly fail to show in abundance. When a fruit or female blossom expands, fertilize it by touching the stamen of the male blossom on the stigma or summit of the female blossom, by which process the pollen or fructifying dust is discharged. When the blossom has been impregnated, the shoot should be stopped at the first joint beyond the fruit. In two or three days the fruit will begin to swell, it should be laid in a wooden trough (we use glass cylinders from sixteen to twenty inches long, and nearly three inches in diameter); the shoot should be pinched back to the joint from whence the fruit proceeds. The reason for leaving the shoot at first is, to encourage the swelling of the fruit. If the shoot were left after the fruit began to swell, it would deprive it of the nourishment which it before gave, by the reproduction of other shoots and fruit. As the roots protrude through the hills, cover them with mould. Before the vines extend over the frame, it will be necessary to finally earth the bed. As the season advances, give air freely, if the heat in the bed indicates from 80 degrees to 85 degrees, at which points, if a proper degree of humidity is maintained, fruit of first-rate quality may be expected. As the branches extend, so also extend watering farther from the main stems. In mild weather, air is very beneficial early in the morning. When fruit of extraordinary length is required, sprinkle the surface of the bed and the foliage (but avoid wetting the fruit blossoms) with tepid water; take the air away an hour before the sun leaves the surface of the glass, and shut down the lights with a temperature of 90 or 100 degrees within the bed. Attend regularly to the linings, to keep up a

brisk heat, if possible be always in advance with it. Where leaves are plenty, mix them with dung; the heat will not be so violent, but much more durable. In building the linings, put a thick layer of rotten leaves or dung round the bottom, and a few inches up the sides of the frame; it will prevent the roots as they extend from being burnt. Keep the rank dung as much as possible to the bottom of the linings. The linings should never be renewed all at once; renew the coolest side first, and when the heat has risen in it, renew the remainder in succession, and for this purpose, choose a calm and dull day.

If the weather is mild, and the heat in the bed strong, two mats for covering will be enough, the use of the second is in case of rain, and to keep the under mat dry. In severe weather, a thick layer of dry hay between the mats will be necessary. If there be much vapour in the bed, with strong heat, leave a little air all night, but be sure that the guard is down and secure from wind. The distribution of the branches should be particularly attended to, the principal ones should be from eight to ten inches apart and all weak shoots should be taken quite out. When a branch has borne several fruit, cut it out and train a young shoot in its place. Use the finger and thumb in shortening the shoots, in preference to the pruning knife. Nevertheless, in cutting old branches away, the knife must be used, applying a little quick lime on the wounded part, which will dry up the pores of the vessels; and the fruit will be better and carry a finer bloom under a partial shade, than when fully exposed. I do not, however, recommend artificial shading, unless in strong sunshine. Woodlice are sometimes troublesome in cucumber frames, and ought to be destroyed. The best means of accomplishing this, is to fill a few small pots with hay, and set them in a shady part of the frame, into these the woodlice retire from the light, when the hay may be taken out and the woodlice shaken into a watering pot; they are also fond of lettuce leaves, set some round the sides of the frame, they get under the leaves for shade and to feed. the leaves may be lifted quickly, and boiling water poured upon them. There are other points to which I might have adverted, but have already tresponsed at greater length than I at first intended. I hoped to have seen something from some of your Manchester correspondents. I hope "Tyro" will " take the word for the deed." JOHN M'EVOY.

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ON HORTICULTURAL SOCIETIES AND EXHIBITIONS. BY AN AMATEUR.

Horticultural Societies are worthy of the cordial support of all those who love their garden, and all who are devout admirers of the wonderful display of wisdom, power, and goodness of that Being who created, for the use of man, a world full of the exquisitely beautiful forms of the vegetable kingdom. The virtuous and those of refined taste are ever found amongst those who most enjoy the beauties of nature and ornaments of a garden. The elegant Epicurus, fixed the seat of his enjoyment in a garden; and it is no mean proof of an amiable disposition, to discover a relish for the beauties of the vegetable creation: such a taste is one of the best preservatives of purity and innocence, and is eminently favourable to virtue. The variety and profusion of nature's works, in this department, are no less remarkable than their accuracy and beauty. Man's passion for novelty can never be satiated with flowers. Studies of this kind have been attempted to be ridiculed by the ambitious, the avaricious, and worldly minded; but it is obvious that they were intended as reasonable, pleasing, and healthful employments, and recreations for man to fill up his leisure hours, and soothe his mind under the severe cares of life-

> "Go! mark the matchless working of the power, That shuts within the seed the future flower, Bids these in elegance of form excel, In colour these and those delight the smell; Sends nature forth, the daughter of the skies, To dance on earth, and charm all human eyes."

The poets of every age have been enraptured with the beauties of a garden. The Elysian fields, those sweet regions of poetry, are adorned with all that fancy can imagine to be delightful. Homer is in exstacy with the garden of Akineus; Ovid wanders with rapture through the Thessalian Temple; Lucan is represented by Juvenal as reposing in his garden; Virgil languished for the cool valleys of Mount Hæmus; our Pomfret desired a little garden, grateful to the eye; Shenstone and Mason both exercised their poetical talents on this delightful subject. Thus far have I suffered my pen to rove, and had almost forgotten the object for which I took it up; and, therefore, to return to the subject in question, I beg to offer a few observations on the difficulties and dissatisfaction attendant upon the rules and regulations by which Horticultural Exhibitions, more particularly those in Doncaster

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and the neighbourhood, are governed, and to throw out a few suggestions to remedy the evil complained of. You are aware, Sir, that in most Floral and Horticultural Exhibitions, the public nurserymen and florists, and the gentlemen's gardeners and amateurs, compete in one class; and as the primary object of all such Societies is to stimulate and promote a generous emulation amongst the cultivators of plants and flowers, and to stimulate and excite the energies, and call into operation the practical experience and skill of gentlemen's gardeners, that professed and important object is, however, in a great measure, frustrated by the rules of such Societies, and a monopoly established for the advantage of traders. This is, at least, the case in the town and neighbourhood to which I more especially refer. Now it must be evident to all, that the amateur, who possesses but a small plot of ground, with limited means for forcing and producing his specimens, is unable to compete with the gardeners of nobility and gentry, who possesses an extent of ground and means which afford them every possible facility: and by the same rule, the gardeners of the nobility and gentry are unable to compete with the trading florist and nurseryman, because the latter obtains in the way of business, the newest and primest specimens in the market, long before they are introduced into private gardens; those specimens which are exhibited by nurserymen, are designed not less for sale than show, they can, therefore, afford to bring ten to one against the practical gardener.

This evil is severely felt in this neighbourhood, and I am afraid, unless speedily remedied, it will greatly injure the prosperity and the usefulness of the exhibitions.

To remedy these evils, I would suggest, that the exhibitions be divided into three classes; the first to be confined to nurserymen, florists, and market gardeners; the second to be set apart to the gardeners of the nobility and gentry; and the third to consist of amateur gardeners: the several competitors to exhibit in those classes only to which they belong. Were this system adopted, it would be attended with success, and give to every exhibitor an opportunity of competing on equal ground; whereas, by the present system, nothing but dissension and dissatisfaction is created. Now, Sir, I shall feel particularly obliged if you will inform me, through the medium of the Floricultural Magazine, what you

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altissima has erect light-green foliage. It is only necessary to consider the best rules and regulations for Horticultural Societies, so as to give all exhibitors an opportunity of competing fairly; that is, for nurserymen to compete in the nurserymen's class, and private gardeners to compete with private gardeners, and amateurs with each other, so that each competitor contend with such only as are possessed of equal facilities for bringing the specimens to perfection.

An Amateur.

Doncaster, Jan. 1st, 1839.

[In all cases where the exhibitions are well supported, and the articles for competition numerous, the propriety of classing the exhibitors must be obvious to all. The private gardener has many advantages within his command quite beyond the reach of the Amateur, in the production of fruits and vegetables; he not only brings a greater amount of professional skill to bear upon the various operations of rearing his fruits and vegetables, but, in general, he also possesses a greater extent of ground for the latter, and hothouses for the former; while the amateur seldom possesses any glass, and very often but little ground; therefore, the competition between these cannot be fair and equitable. Then, again gentlemen's gardeners and nurserymen can never compete for plants, with an equal chance of success to both. The nurseryman is supposed to obtain new plants in the way of trade, and, therefore, he has an unfair advantage over the private gardener. In all cases, therefore, where the exhibitions are well supported, classes should be provided for gentlemen's gardeners, for amateurs, and also for nurserymen. But such a division or classification as this cannot be practicable where the funds of the Society are limited, or where the articles for competition are not numerous. Circumstances, indeed, of no rare occurrence.-ED.]

EDITORIAL NOTES, MADE AT WENTWORTH, CHATSWORTH, &c. BY THE EDITOR.

Having, as far as our time permitted, visited our neighbours previous to leaving Yorkshire; amongst these, we called on Mr. Cooper, at Wentworth, and saw his Orchideæ, which are as vigorous as ever, and several of them in bloom. The Oncidium Baueri was coming into bloom, and three or four scapes, of considerable length, had made their appearance. This species, which, in collections is often confounded with O. altissima, is quite distinct from that species: the habit and general appearance is very different. The O. baueri has longer leaves, more flexible and undulated at the edges, and of a dull dark-green; whereas O.

see the two together, to exhibit the difference between them, which is very marked.

A small plant of Rhododendron, raised from seeds sent home by Mr. Freasure, was pointed out to us, and said to be the largest of the genus, decidedly more arborescent than the Nepal species, cultivated in our gardens under the name arbrea. We believe it was stated to be quite hardy, and to attain the magnitude of a tree. The varieties of the Nepal one may be said to do this; but in their native habitations, according to Dr. Wallach, they are seldom found to exceed sixteen feet in height, and, of course, inferior in appearance, vigour, and beauty, as well as magnitude, to specimens now to be met with in this country. This is no unusual occurrence; and many instances might be referred to, to prove this fact. The cultivated Heaths in the Botanic Garden, Edinburgh, at least many of the species, far exceed, in magnitude and beauty, the same kinds in the wastes of Africa, where they are indigenous. Mr. Cooper had obtained the Rhododendron in question from the Hon. and Rev. W. Herbert.

In a narrow border in front of the stove at this place, are many species of Crinum and Amaryllis, fully exposed to the open air. Many of them had produced bloom, and were apparently in vigorous health.

Several alterations are being made in the pleasure ground, near the Mansion; suggested and carrying on under the direction of Earl Fitzwilliam and Lord Milton. As these Noblemen have an unquestionable right to make their own place as hideous as they please, we shall abstain from offering any remark on what we observed with reference to this matter. The park at Wentworth is surpassed by few. either in extent or beauty; the woods and water are, in many respects, admirable; and the pleasure ground is furnished with many splendid trees, not a few of which are, however dying from suffocation, the common and more robust sorts being allowed to overgrow the less vigorous and rarer kinds. The pleasure grounds possess great capabilities; but here, as in hundreds of other places, the superstitious regard for, and fear of taking down, trees has already all but ruined many of the choicest and rarest kinds.

Chatsworth.—The spirit of the Noble Proprietor, and the experience and professional skill of the gardener, far out-distances all

competitors. That this compliment is fully merited, it is only necessary to refer to the magnificent conservatory now in course of erection, certainly unequalled by anything of the kind either in Europe or in the world; and with regard to the manner in which these gigantic improvements are being carried out by Mr. Paxton, the ridge and valley principle of roofing greenhouses and conservatories, is an improvement in structures of this kind which, in itself, would have been enough to immortalize Mr. Paxton, had he been known for nothing else. To this he has added an improvement in glazing, which will be found of still greater value than the formation of the roof, and which will be universally adopted.

Amongst the plants, are many new and valuable things. Those which to us appeared of greatest interest and promise, are three varieties of Rhododendron, distinct from each other, and from all that we have seen. These have now been grown at Chatsworth for upwards of two years, and are, for the first time, showing flower, under the care of Mr. Gibson, who collected them in Nepal, growing in the same locality with R. arborea.

Besides these, there are not a few others, of considerable rarity and interest. Of Orchideæ, we shall not attempt to particularize, as this would far exceed our present limits. We may just mention that Mr. Paxton is now engaged in maturing some arrangements for the culture of this curious but ornamental and fashionable family, calculated to render them far more popular than they are, even at present, inasmuch as it will effect a saving of perhaps one half the fuel usually required. We believe the principle, which will, no doubt, be described in due time by Mr. Paxton himself, will be found of great importance, in every department of gardening.

January 13th.—Having occasion to visit Dorking, in Surrey, we called at Berry Hill, so long famous for its collection of new and rare plants during the time of the late Mr. Backley, to whom the country is indebted for not a few of those plants which will continue to be regarded as ornamental, so long as gardening is admired and plants are cultivated. Formerly, the gardens at Berry Hill, contained one of the choicest and most valuable collections of stove plants any where to be met with at the time; nor was the value of the collection confined to the tropical plants cultivated in the stove, the greenhouses, and open borders, were occupied with many that were new and valuable, From these remarks, it might be inferred.

that this place was now destitute of all interest, so far at least as new plants were concerned; this is, however, by no means the case. The place has certainly changed its aspect, with regard to the kind of interest and the peculiar description of novelty then in existence; but it is still interesting, and there is still very much about it that is novel. Mr. Scott, to whom we were previously unacquainted, is a most successful cultivator of several families of the more ornamental kinds of plants, such as Cerius, Epiphyllum, Heaths, Geraniums, and Camellias. The newer kinds of Hybrid Rhododendrons, but especially Alstremerias and Narcissus. Mr. Scott cultivates a very complete collection of Alstromerias, and possesses some very scarce kinds; these, with this gentleman's permission, we shall notice more at length hereafter. On the south side of the house, there is a flower garden and a pinatum already commenced, containing several good specimens. Amongst these we noticed Cedrus, or Pinus Decdara. Pinus Douglassii. The former of these is a seedling plant, raised seven years ago, and is now seven feet and a half high; the latter of these was also planted seven years ago, and was at the time about one foot in height; it is now eighteen feet and a half high. In front of a greenhouse we observed Oxalis Boweii and O. florabunda, which had been exposed in the border unprotected for several years. In a conservatory adjoining the house, was a plant of Alstromeria acutipetala, planted in the border within the house; it had five stems, nearly of equal length, each having borne a cluster of flowers at the extremity—a peculiarity of this species is to bear its flowers at the extremity only; the longest of the shoots measured twentyone feet in length, and is by far the most vigorous plant we ever saw. There were also some trellises about nine feet in height, for placing on pots, which Mr. Scott informs us had been completely covered during the past season with Alstromeria Simsii. Mr. Scott is also engaged in planting out many half-hardy plants in a wood, on an elevated situation behind the mansion. This he has kindly promised us some notice of at a future time. Amongst the succulents we noticed a handsome plant of Cereus coccineus, of Decandole. The habit is triangular, but very distinct from any thing we had previously seen; also a good plant of Epiphyllum Jenkinsonii, var. Album, Cereus senilis, and C. lanata; the former from Mexico, and the latter from Rio. They are described as distinct species by Dec, and in appearance they are decidedly so:

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At Mr. Low's Nursery, we have just seen a plant in flower of one of the hibrid Correa, previously noticed in this Magazine; the foliage is rather remarkable for its length, it is heart-shaped, and has been named Longiflora, but we know not on what authority. The flower, when produced under favourable circumstances, instead of in the middle of winter, may be much longer, but at present it is certainly scarcely so long as the C. speciosa; but the plant is decidedly distinct, and, at first sight, different from any other species of the genus that we have seen. Also in flower Eupatorium odoratissima, said to be very highly scented at night. Epacris atrasanguines, this is a beautiful plant, and will continue to be admired. Also, Achrophyllum venosum, raised at Birmingham; the habit is rather remarkable, being upright, with its serrated stalkless leaves, in whorls at short intervals on the stern.

EDITOR.

ON THE CULTURE OF THE CHRYSANTHEMUM. BY "AUTUMNALIS."

I perceived in your remarks on the London Nurseries, in the last month's number of the Magazine, some notice of the Chrysanthe. mum, as grown by Mr. Chandler, nurseryman, Vauxhall. As your's was, however, but a mere casual notice, I shall add a few remarks, which may be of some service to those of your readers who take an interest in this showy genus. My mode of treating the Chrysanthemum is as follows: -The plants which bloomed the preceding autumn are preserved in cold frames through the winter, and about the middle of March I shake them out of the pots, and divide the ball into small pieces: these are repotted into small-sized pots, and placed under hand-glasses in the floor of the vinery, peach-house, or conservatory. In this situation they are allowed to remain for about ten days or a fortnight, and sometimes three weeks, as circumstances may make it desirable. After this, they are gradually exposed to the air of the house, and about the first week in April they are removed to a cold frame, where they are kept rather close, and when air is allowed at all, it is very sparingly, except in warm, sunny weather; and they are always shut up early in the afternoon. In potting, I prepare the piece of root which I intend for my future plant, so as to throw up

three or four stems. When these have attained the height of about fifteen inches, I stop them: each stem then generally throws out three, and sometimes four shoots. These, multiplied by the number of principal stems, give about twelve shoots: these, again, throw out lateral branches, on which the buds and ultimate bloom are produced. To each principal stem I put a stake, of about two and a half to three feet in height, with the upper ends spread out, so as to leave room for the increased number of branches. As the season advances, and the weather becomes warmer, the plants are gradually inured to the air; but by no means so as to check their growth. Indeed, what I conceive to be the grand secret in Chrysanthemum growing, is that of pushing them forward early in the season. Having prepared and hardened them well, so that by the first week in June they are capable of bearing the full exposure to the open air, without having their leaves materially injured by the weather, for this is of consequence to them; they are then, pots and all, plunged in the earth in a sheltered border. In doing this, I plunge them three or four inches under the surface of the earth. In this situation they are allowed to remain till about the third week in August. The size of the pots in which they are plunged averages seven inches across. After they have been planted out I carefully attend to watering. This is quite necessary, owing to the roots being confined to the limits of a small pot. Shortly after they have been planted out, the roots rise over the edges of the pots, and find nourishment in the free soil. This takes place gradually, and as the pots become filled with roots, the plants are providing themselves with others in the open border. In this way the plants grow vigorously, and admit of lifting much better, at the proper time, than when planted entirely in the open border, as recommended by Mr. Chandler.

When lifted, they are taken out of the pot, and the confined roots slightly moved. Those which had extended over the edge of the pot into the open border, are also carefully preserved and potted By this treatment, they seldom lose their foliage, and the buds open with as much vigour as if they had never been disturbed.

After being listed, they are set in some shady place from the sun, and, as early as circumstances will permit, brought into the green-house.

" AUTUMNALIS."



REFERENCE TO PLATE XLVII.

SALVIA VERTICILLATUS. Whorl-flowered Sage.

WAT. ORD. LARIATE. CLASS DIAMBRIA MONOSYNIA.

We were fortunate in raising this very ornamental plant from Mexican needs, whilst at the Sheffield Botanical Gardens. As will be seen from the figure, the flowers are a bright scarlet. They are produced in long succession from the dense whorls, and the spikes are very long. Our plant, a seedling one, attained the height of about five feet, with a great number of lateral branches, each of which bore a spike of flowers. Unlike the Salvia Patens, whose flowers, although unsurpassable is beauty, yet fade and fall off by the time they have become well expanded, this species continues to produce bloom from the same whorls for many weeks, so that the flower spike, which is not less than a foot or eighteen inches long, continues in bloom throughout its whole length. We have great hopes of this being a popular plant, as it is a very ornamental one. It flowered at the Sheffield Botanical Garden during the Summer and Autumn of 1839, and we have adopted the name thus given to it, at the suggestion of a scientific Botanist.

CHOROZEMA VARIUM. Various-leaved Chorozema.

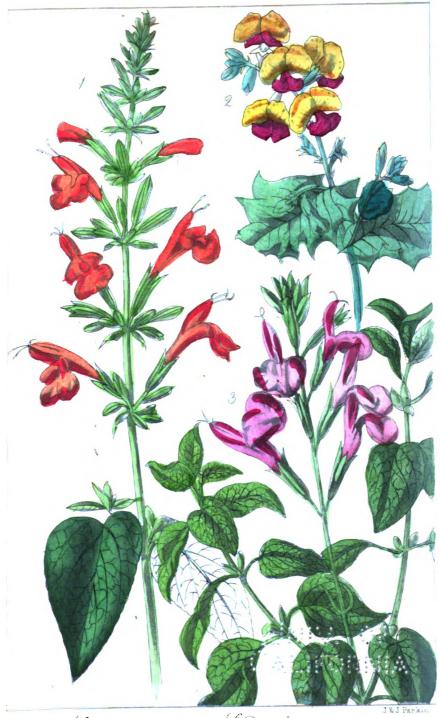
NAT. ORD. LEGUMINOSE. DICANDRIA MONOGYNIA.

This is one of those much-praised plants, certainly very beautiful in its flowers, and remarkably so in its foliage, which will long continue to be cultivated and regarded as an ornamental plant. It is now not uncommonly met with in good collections, and small plants may be purchased at from 8s. 6d. to 7s. 6d. per plant. It attains the height of three or four feet. Unlike most plants of the genus, it produces its blooms in large spikes, rising above the thick and compact foliage. It is a native of the Swan River, and was introduced from thence by Captain Mangles, of the Royal Navy, in 1837-38. The constitution of this plant is more robust and strong than any other that we remember, and of course requires a good deal of pot-room and rich compost to grow it freely. This is a truly splendid plant for the green-house, and cannot be too strongly recommended.

SALVIA DULCIS. Sweet Sage.

WAT. ORD. LABIATE. CLASS DIAMDRIA MONOGYNIA.

Another Mexican Salvia, in habit approaching S. Grahamii, but with larger foliage, and larger and much lighter-coloured flowers. This was also seen in flower by Mr. James M'Nab, the gentleman alluded to above, and at whose recommendation the names have been adopted. This species, together with another nearly allied to it, were sent us by a friend, who received the seeds from Mexico, at the same time, and along with, Salvia Patens. Both this and the first would make ornamental plants for turning out into the open borders during Summer.



1. Salma vertiallus 2 Chorogoma varium

ABBOTLA)

NOTICES OF NEW PLANTS.

HIPPEASTRUM SOLANDRIFLORUM, Solandra flowered Hippeastrum. Bot. Mag.

NAT. ORD. AMARYLLIDEM. CLASS HEXANDRIA MONOGYNIA.

SYNONYMS. AMARYLLIS SOLANDRÆFLORA OF LINDLEY AND SPRENGALL.

Most of our readers are aware that the genus Amaryllis is composed of planta, the form of which suggest to the mind the natural association on which the grand division to which they belong has its foundation. namely, the lilly, hence the term Liliacess. Sir William Hooker has the following remarks relative to this plant:—"Among the many interesting plants sent by Mr. Schomburgh to our gardens, from British Guiana, were bulbs of the present truly noble plant, which were gathered in his late adventurous voyage up the Berbice, and received by his Grace the Duke of Bedford. They flowered in the stove at Woburn, in May, 1839, and proved to be the very same form of Hippeastrum solandriflorum, which is figured by Dr. Lindley in his 'Collectania Botanica.'" It is, of course, a bulbous plant, with long lily-like leaves, bearing two large yellowish white flowers upon an upright strong and rather tall stem.

GARDOQUIA MULTIFLORA, Many flowered Gardoquia. Bot. Mag. NAT. ORD. LABIATE ... CLASS DIDYNAMIA GYMNOSPERMIA.

This is an exceedingly beautiful plant when successfully grown. The habit, when not in flower, very much resembles the Fuchsia; the flowers are, however, quite different, and are produced in clusters from the axils of the leaves. The form of the flowers are tubular, long, and narrow, and of a reddish purple. They are produced in great profusion throughout a large portion of the stem. Were it not that this plant is found somewhat difficult of cultivation, it would become a popular plant, as it is an exceedingly showy one. It was introduced from Chili, and flowered in the Caledonian Horticultural Society's Garden during the past summer, where it continued in bloom throughout the whole of the summer and greater part of the autumn. It very much resembles Gardoquia grandiflora, but is distinguished from that species by its perfectly glabrous foliage, and by its branches not being erect, and by its shorter style. It is a shrubby plant, and well adapted, we have no doubt, for turning out into a warm border in the flower garden during summer.

PASSIFLORA MOOREANA, Mr. Moore's Passion Flower. Bot. Mag.

NAT. ORD. PASSIFLOREÆ. CLASS MONADELPHIA PENTANDRIA.

Bearing some resemblance to Passiflora cœrulea, and, like that species, supposed to be nearly hardy. It is a native of Buenos Ayres, whence the seeds were collected and transmitted to this country by Mr. Tweedie. It is named in honour of Mr. Dugald Moore, of the Royal Society's Botanical Garden, at Glassnevin, near Dublin, under whose care it has produced its bloom. The flowers are of a greyish purple.

EPACRIS OBTUSIFOLIA, Blunt leaved Epacris.

NAT. ORD. EPACRIDEÆ. CLASS PENTANDRIA MONOGYNIA.

The ornamental character of the genus Epacris is generally known, and as generally admired. All, or nearly all, are exceedingly showy and free flowering plants. The one in question is quite new, but certainly not equal in beauty to some of the older species; it is, nevertheless, quite an ornamental plant, bearing white flowers, and having, as the name implies, blunt or oval leaves. Its season of flowering is December.

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IRIS FRAGRANS, Sweet scented Iris.

[Bot. Reg.

NAT. ORD. IRIDACE ... CLASS TRIANDRIA MONOGYNIA.

The flag-like leaves, peculiar to most of the genus, render it easily remembered. The flowers of the species in question are purple at the extramities, and white with purple streaks lower down in the throat. It is a native of the north of India, where it was discovered by Professor Royle. The flowers are very fragrant, and the plant itself is as hardy as the Iris silurica, growing freely in any rich soil or common garden earth. It is a perennial, and blooms about the month of June, and is readily increased by dividing the roots. It is quite hardy, having sustained uninjured the severe frosts of 1837-8.

STANDISHE'S FUCHSIA, Garden variety.

| Bot. Reg.

As this is but a garden variety, of which, perhaps, thousands are raised annually, it may be better to give Dr. Lindley's own explanation, which is the following: - "My principal reason for publishing a figure of this very remarkable plant is, because it is a mule between Fuchsia fulgens and F. globosa, two plants as dissimilar as possible in the same genus. The former, indeed, figured in this work for the year 1838, Tab. 1, differs in so many respects from the common species of the genus, especially in having an herbaceous stem and tuberous roots, that it has been supposed impossible that it should be a Fuchsia at all. It now, however, appears from the fact of its crossing freely with the common Fuchsias, that it really does belong to the genus." He also adds that this plant is "completely intermediate between the two parents in this case, having the leaves, flowers, and habit of the mother, F. globosa, with the hairyness and tenderness of foliage of the father, some of his colouring, and much of his herbaceous character." This certainly appears to be a very handsome variety. It was raised by Mr. John Standish, nurseryman, Bagshot, and flowered in July last.

SOLLYA LINEARIS, Narrow-leaved Sollya.

| Bot. Reg.

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NAT. ORD. PETTOSPORACEÆ. CLASS PENTANDRIA MONOGYNIA.

Bearing a close resemblance to S. heterophylla, both in the colour and the size of the flowers, but differing in its very narrow leaves. It is, like the heterophylla, a dwarf climbing plant, requiring the protection of the greenhouse; but sometimes living out of doors in mild winters. It is a native of the Swan River. A third species of this genus is spoken of under the name of S. augustifolia; but Dr. Lindley says there is no such species yet discovered.

DEUTZIA CORYMBOSA, Corymb-flowering Deutzia.

Bot. Reg.

NAT. ORD. PHILADELPHACE E. CLASS DECANDRIA DI-TETRAGYNIA.

This shrub, with its clusters of white flowers, is one especially deserving of cultivation, being a free blooming plant, very hardy, and producing its flowers when small. This is a desirable hardy shrub well worth growing; a native of the Himalayan mountains.

EPIDENDRUM GLUMACEUM, Glumaceous Epidendrum.

Bot. Reg.

NAT. ORD. ORCHIDACE E. CLASS GYNANDRIA MONOGYNIA

This showy epiphyte is a native of Brazil, whence it was obtained by Messrs. Rollisson, of Tooting. The bulbs are small and smooth, and the flowers are produced on a stout upright spike. The flowers themselves are of a French white. It has the habit and sweet odour of R. fragrans.

DENDROBIUM CAMBRIDGEANUM, Duchess of Cambridge's Dendrobism.

| Paston's Mag-

NAT. ORD. ORCHIDACEÆ. CLASS GYNANDRIA MONOGYNIA-

This is an exceedingly beautiful species, indeed every species of the genus is beautiful, but this is splendid. The flowers are bright yellow, with a deep

purple spot in the centre, berne on pendulous fleshy shoots. It appears to be named in honour of her Royal Highness the Duchess of Cambridge.

Mr. Paxton says, "It differs from all other species, either grown in the Chatsworth collection, or figured or described in any work to which we have access, in the remarkably drooping character of its stems, and their striking tendency to obesity. It is also perfectly distinct in the hues of its flowers, the exterior portions of these being somewhat similar in colour to those of D. fimbriatum, but decidedly paler, while the lip is of a fine bright purple. The disposition of the blossoms is moreover quite unique among the yellow flowering kinds, there being in D. Cambridgeanum never more issuing from the same point, and occasionally only one." The peculiar habit of this plant renders it necessary that it should be cultivated on pieces of wood, with the roots screened from light with sphagnum, carefully secured with metallic wire. Living plants of the common Lycopodium Stoloniferum, are used by Messrs. Loddiges on logs of wood and baskets, which support the more luxuriant species. This answers the threefold purpose of protecting the roots, giving an interesting appearance, and also displaying certain indications in cases of lack of moisture." This is an excellent plan, and deserves to be more extensively practised.

IPOMÆA, Leari.

Pax. Mag.

NAT. ORD. CONVOLVULACEÆ. CLASS PENTANDRIA MONOGYNIA.

This is a native of Ceylon, introduced from thence by Mr. Knight, nurseryman, King's-road, Chelsea. The Ipomæa in question, is botanically distinct from I. rubro-cœrulea, but in general appearance very much resembling that species. The flower is large, of an intense blue.

THUNBERGIA AURANTIACA, Orange-flowered Thunbergia. [Pax. Mag. NAT. ORD. ACANTHACES. CLASS DIDYNAMIA ANGIOSPERMIA.

"Seldom have our pages been embellished with the representation of a more showy plant, or one better deserving universal and lasting dissemination." We heartily respond to the encomium thus passed upon this ornamental and truly showy plant. Few of our readers are unacquainted with the beautiful buff-coloured dark centred Thunbergia, which, in habit and general appearance, resembles the T. aurantiacum, the flowers of which are large, and of a deep orange colour. It has emanated from the Epsom nursery, but was raised in a private garden, from seeds imported from the Cape of Good Hope.

PENTSTEMON ARGUTUS, Cut-leaved Pentstemon.

| Pax. Mag

NAT. ORD. SCROPHULARIACEÆ. CLASS DIDYNAMIA ANGIOSPERMIA.

This is a very handsome species of Pentstemon, worthy of general cultivation. The foliage is large and round, deeply serrated, the flowers are produced in large corymbs, and are of a purple colour. It is supposed to be a native of Texas, and has flowered in Mr. Henderson's nursery, Pine Apple Place.

MISCELLANIES.

GRAFTING THE PINE AND FIR TRIBE—The Baron de Tschudy has made a great many experiments on grafting trees and herbaceous plants, some of which we have noticed in the second edition of the Encyclopedia of Gardening. The Pine and Fir tribe he inoculates before the buds have pushed, which is found to succeed much better than any other mode. In herbaceous vegetables, he has grafted the Melon on the Briony, the result of which was, fruit of the size of a Citron, very sweet. The Artichoke he grafted on the Cardoon, the Cauliflower on Cabbage, Love Apples on Potatoes, and so on.—(Ann. de L. Agr. France, t. xxix.)

PINE APPLE.—A manufacturer, who has a steam-engine, is said to have conceived the happy idea of applying the spare steam to the culture of this fruit; of course the result was, fruit of a superior quality to those grown in the ordinary way.—(Jour. Hebdom., Paris, May, 1825.)

HANOVERIAN METHOD OF SAVING LETTUCE SEED.—Do not wait till the spike of flowers has re-opened all the seeds, but cut it over on the first appearance of maturity, and lay it on the ground, when all the florets will ripen their weeds nearly about the same time.

The Hypericum Crispum is stated, in the transactions of an Italian Agricultural Society, to be a deadly poison to sheep, and well known as such by the Sicilian and Neapolitan shepherds.

Botanical researches of the scientific kind may be divided into three branches, namely, Chemical Botany, Systematic Botany, and Casual Botany. The first relates to the discovery of the virtues and uses of plants; the second relates to their arrangement, agreeable to their affinities; and the third and last relates to the causes and the character of the changes they experience.

The discovery of the virtues and uses of plants, when conducted on scientific principles, is performed by analysing them; a process which is sometimes effected by the agency of fire, and sometimes by water,—(Casual Bot., p 29.)

Changes attended on duration are the same in all plants of the same species. Changes produced by difference of soil, situation, and climate, are local; changes produced by disease and by luxuriance, are erratic or uncertain; while changes produced by culture, are either its consequent and certain, or its sepatic and uncertain effects. Amidst this diversity, we perceive that there are changes which occur in obedience to nature; while others occur, in obedience to causes that are of limited or circumscribed influence. Now, though both are alike the natural effects of the causes whence they proceed, yet it is only such as occur in obedience to nature, that is, in obedience to versal external agency, that are to be considered as natural; while all that occur in obedience to causes of limited influence, are to be regarded as incidental.—(Casual Botany, page 38.)

Some may be disposed to conclude, that all perennial varieties are naturally ineapable of perpetuating themselves; but this is not the case. On the contrary, the different varieties that belong to the perennial and primary species of Trifolium, Cytisus Phaseolus, and others that have secluded fructification, reproduce themselves with the like constancy as the species of which they are the varieties; a satisfactory proof that the instability of perennial varieties, with exposed fructification, proceeds from their sexual intercourse: indeed, amongst perennial varieties with exposed fructification, that have been at any time exposed to an intercourse with their kindred varieties, none are found to possess the power of reproducing themselves from seed,—(Casual Botany, page 142.)

Of floral variegation, and of changes from a light to a dark colour, and of all other changes that are attributable to the agency of man, and which are never generated independent of his power, it is to be observed, that a course of treatment must necessarily precede their existence; that is, the plants changed must be the produce of plants that have experienced a course of treatment, before such can possibly happen. Thus, the general productiveness or fertility, which culture produces in the majority of species, if not in all, we know to be such as requires the labour and attention of years to produce it; and that, if lost, the like labour and attention is required to regain it: yet the same is only the simple effects of culture, and the predisponent cause of all other changes that are peculiar or solely confined to cultivated plants,—(lbis, p.89.)

Having a plant of the Campanula Grandiflora, and being ignorant of the treatment it requires, I take the liberty of asking information on the point, through the medium of your useful publication. Could I, through the same medium, ask whether any effectual means have been discovered of protecting the flower of the Pansey from the depredations of insects? My flowers are frequently much disfigured, almost before they have expanded.—L.

We need offer no apology for making the following extract from the first part of Dr. Lindley's Appendix to the Bot. Register, which we noticed at length in our last number. All who take an interest in the productions of the Swan River ought to purchase this Appendix .- "ON THE NATURAL ORDER FABACEE. The abundance of this order, in all the colonized parts of New Holland is well known, as is the importance of its wattles, or acacies, to the settlers. Swan River is not deficient in its proportion of such plants, the greater part of the species, and some of the genera, being peculiar to it. One of the most curious characters, of a secondary value, connected with Australian Fabaceze, is the general presence of yellow in their flowers, and the very frequent stain of red or crimson found upon the keel and aloe, while the vexillum remains yellow; in these respects, the Swan River Flora accords with that of other parts of the Continent. There are, however, some cases of a peculiar deep blue in the whole of the flower, as in Hoves Pungens, now not uncommon in our gardens. Fl. Chorozemæfolia and Ilicifolia, and the still more beautiful Mirbelia Floribunda, which must form, when in flower, one shoot of azure; Mirbelia Dilatata, R.Br., with bright purple flowers, seems to be abundant. The common genera of which characteristic species exist here, are chiefly Acacia, Pultenea, Oxylobium, Chorozema, Deviesia, Jacksonia, Burtonia, Gompholobium, Actus, Zichya, Physolobium, Kennedya, and Hardenbergia. Frazer also speaks of a pendulous species of Viminaria, of considerable height, richly clothed with yellow and crimson flowers, by which it is probable that he intended to make one of the species of Sphærolobium, which appear to be common here. Oxylobium seems to be one of the richest in species, and is particularly deserving notice, on account of the singular wedge shaped form of the leaves of O. dilatatum and others. The Jacksonias are, in most cases, plants of no beauty; but J. Floribunda, Ende, and J. Densiflora Benth, are very strange-looking plants, with branches so like leaves that they would certainly be taken for them by an incautious observer. Pultenzas are not numerous; but Pultenza Ericifolia Benth appears to be a common bush. Of Gastrolobia, there are numerous species, many of which are charming plants, with long racemes of flowers, yellow and brown. G Cordatum (tab. V. B.) has remarkably neat, roundish, cordate leaves, and must be worth cultivation for its foliage alone: while G. Parvifolium is a beautiful little species, with small, concave, erect, imbricated leaves, whose veins are so arranged as to give them the appearance of being teseslated. Actus Cordifolius Ende is a curious plant, with cordate leaves and yellow flowers; and the Daviesias rival the Acacia itself in the strangeness of their foliage. D. Quadrilatera has leaves, which look more like objects prepared to puzzle a geometrician, than anything already known in the vegetable kingdom.

OF THE MARKS THAT DISTINGUISH SPECIES, or that indicate the existence of a specific power in plants specifically distinct, the principal are, difference in form, proportion, magnitude, colour, taste, smell, duration, fertility, and time of re-production, but as it has been found that specific differences depend more upon a difference of structure or form than upon any other perceptible difference, it is agreed, therefore, that a difference in form is the most eligible and sure mark of specific distinction.—Casual Bot.

It appears, by statistical information, that the land cultivated around Paris as kitchen gardens, yields 30,000,000 of francs, and maintains half a million of persons. The flowers and fruit produced there yield also several millions of francs. About two hundred flower gardens exist at Paris and in the neighbourhood, and supply the markets of the capital. There are days, especially

the eyes of grand fetes, when the sale is very considerable. M. Hericart de Thury affirms that on the 14th of August last £2,000 worth of flowers were sold in Paris, and that, in the depth of winter, certain grand soirces give rise to sales amounting to between 5,000 and 20,000 francs. In the same season bouquets of natural flowers are despaced, in tin boxes, not only to the remotest towns of France, but even to Munich, Vienna, and other distant foreign parts.

LONDON GADENERS' ASSOCIATION .- Hammersmith, Monday Evening, November 11, 1839.-Mr. Dawson brought forward his paper on the culture of Rhubarb, and remarked that it was a plant much cultivated of late years for the foot-stalks of the leaves, which are made into tarts and piec. It is now used so extensively in the neighbourhood of London that several hundred acres are occupied by it, and during the months of May and June it constitutes one of the stable articles in Covent Garden Market. The Rheum Rhaponticum the most commonly cultivated, is a native of Asia, and was introduced into Britain in 1573. The Rheum Palmatum is a native of Tartary, and was introduced in 1758. This was long supposed to be the true medicinal sort, but Mr. David Donn has shown that the Rheum Emodi of Dr. Wallich is the true medicinal plant. The late Duke of Athol, at the suggestion of the late Dr. Hope, of Edinburgh, cultivated it to a considerable extent, but not with the success anticipated. The Rheum hybridum, which was first brought into notice by Mr. Dickson, of Edinburgh, is grown rather extensively in several places. It is a strong growing species, more succulent than the R. Rhaponticum, but as the Rhaponticum is more commonly cultivated, the following observations will more particularly apply to that sort. Being perfectly hardy, it comes to perfection in the open ground, planted in a rich light loam, in rows about three feet square, the ground being well trenched a good depth, previous to planting. The plants may be procured from seeds sown in the Autumn, or from cuttings of the roots. Rhubarb is much improved by blanching, as it renders it more succulent and agreeable to the palate. It had been forced for a considerable time before the idea of blanching it appears to have occurred. The agreeable acidity of the footstalks of the leaves, and their near approach in flavour to unripe gooseberries, renders it of considerable consequence, as it can be produced at a season when the gooseberries can only be had in a preserved state. From the medicinal properties of Rhubarb it is highly beneficial to most constitutions, and there are few tables on which it does not make its appearance during its season. -Mr. Dawson read an extract of the late Mr. Andrew Knight's system of grewing Rhubarb, and then observed that a supply of Rhubarb may be produced from the end of November, when the leaves are completely decayed, until it can be had again in the open ground, by digging up the roots, placing them in any spare place in a mushroom-house, supplying them with plenty of water, as they will grow well where very few other plants would vegetate. In taking up the roots they ought to be removed with as much earth as can possibly be made to adhere to them; not that they require it for nourishment, but because it equalises the temperature, and prevents them from drying. Rhubarb may be readily blanched, being covered with mats. supported by hoops, by large pots, or by very large boxes, placed over them, which will thoroughly exclude the light. The roots may be placed upon the surface of a pit, or in a common frame, upon a slight hot bed of dung or leaves, the lights put on, and covered closely with mats. They will thus produce a good crop earlier than in the open ground. Rhubarb is successfully grown in the open ground, at any time from November, by placing large deep pots, or boxes, over the roots, and covering them with hot dung, in the same way as for Sea kale. By this means it can be had during the Winter, but it will be attended with more trouble than if it were convenient to force them by small quantities at a time in any warm house. After detailing several methods practised by many gardeners, he concluded by recommending plants of four years old, which will be found to answer best for forcing. Mr. Judd observed as Mr. Dawson considered the Rheum hybridum more succulent, It would be better if he preferred it to the Rhaponticum, as the subject of his

paper. He would plant Rhubarb like Asparagus, and when the foot-stalks were of sufficient length he would expose them to the light. His father's system of forcing Rhubarb, which was published in the Horticultural Transactions, was clearly detailed by him. Mr. Keane considered Mr. Knight's practise as very feasible. He thought Mr. Dawson detailed too many systems. and fully agreed in the great benefit society derived from the recent, and now almost general cultivation of Rhubarb. Mr. Grey recollected that about three years ago footstalks of Rhubarb were exhibited at the Horticultural Society, Edinburgh, which measured five feet long at Christmas. The method which was now undergoing a trial at his place, was to take old Dahlia sticks. about the beginning of November, and fasten them in the ground around the Rhubarb root, tying them at the top, and covering them with leaves. As they are brought from the woods, the heat is gentle, and the tops are left open, that the roots may be first excited. He believed that Mr. Knight might be good authority on Vegetable Physiology, but however celebrated the name of any man might be, he would never follow his practices without well-founded reasons for so doing. Mr. Caie would wish to know of Mr. Judd the depth of the covering at the time the temperature was 60 degrees. Covering elongates the foot-stalks. As light was necessary for vegetable life, it would be well to know if Rhubarb required light, and what effect would follow from putting it a greater or less distance from the glass. Mr. Judd: the lining at the bettom was about two feet six inches, and at the top just sufficient to exclude the light. As the heat rises and circulates, it keeps up a regular temperature, but during cold nights mats were thrown over them. Mr. Fish thought the covering was not sufficient to keep the temperature at 60 degrees, as the atmospheric would come in contact with the confined air, and consequently reduce the temperature. He was in the habit of growing the Goliath Rhubarb; the footstalks were generally about three feet long in January. He selected plants three or four years old, put three or four in a large pot, inverted another pot over them, covered them in November with leaves and warm dung, and placed some of them in a passage beside hot water pipes; where they succeeded very well. Mr. Massey was sorry to see so much good ground taken up with such a vegetable, but as it might be a delicacy to those who wished to pamper their appetites, there was no doubt but a supply would always be produced. He considered that growing it at 60 degrees would produce very poor foot stalks: he would prefer 50 degrees. His method was simply to take up the roots, put them in any spare warm place, water them when dry, and from Rhuberb treated in that way he had cut many dishes. Mr. J. Fish thought Mr. Massey's plan had simplicity to recommend it. He wished to see Rhubarb introduced into every cottager's dwelling, as the expences of cultivating and preparing it for table would be very trifling. Mr. Grey: Granting the supposition, which he did not believe, that it was useless; still as their employers very often required Rhubarb at their tables, it was the duty of Gardeners to give the needful supply. Mr. Caie thought it of the greatest importance to introduce a taste for the comforts, and even delicacies of the table amongst the rural population, which would induce them to study more practically the culinary properties of vegetables. Mr. Judd, when at Kew Gardens, took up old plants of Rhubarb with roots to each plant, which almost filled a wheelbarrow; -put them into a doublepitted house, covered them with old tan, and kept the temperature between 60 deg. and 65 deg. They did not force well. Mr. Caie: As Rhubarb is grown five feet by the genial warmth produced by leaves, the failure in houses and pits must be attributed to the noxious gases which are generated by rarified air in a hot-house. Mr. Keane believed that the leaves in Summer elaborated. the sap, which descends to the roots in Autumn, and is there reserved to mature the buds, until excited by heat, when it is called forth to supply the plant with nourishment, and is supported by water, with very little assistance from the soil. These observations apply more particularly to plants taken up for forcing. Mr. Fish preferred to sow seed every season, as he found Rhubarb plants, when forced, never become useful for two or three years afterwards, which proved that there was no advantage in keeping them. Mr. Dawson briefly replied.

[Some of our Florientural friends may think, and have a right to expect, that we should apologize for publishing the whole of the preceding paper, inasmuch as it does not treat of flowers. This we admit; but we also know that many of our readers feel an interest in substantial Horticultural subjects like the one in question. We also feel glad that the West London Association is still carried on, and supported by many of the friends who first established it. We shall feel obliged if the Association will favour us with their reports from time to time, as we have no doubt that the subjects will generally be such as our subscribers would feel interested in reading.—Rb.]

Annuals must ever be held in esteem by those who love and admire flowers. Presuming on this fact, the few following practical remarks and directions are prepared for the purpose of facilitating, and as far as possible to insure their successful cultivation, when undertaken by amateurs who may yet have acquired but little experience in the growthrof flowers. We shall, therefore, divide them into three classes, which may be designated Hardy, Half Hardy, and Tender. There are besides these Biennials, both Tender and Hardy: These we shall also notice.

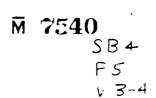
Hardy Annuals.—The cultivation of these is, for the most part, attended with no difficulty or risk of failure, and may be treated in the following manner:—To secure an early bloom they may be sown in pots, or in a warm sheltered situation, as early as the first of February. When sown in pots they of course require to be kept in a little heat, either in a frame-steve or a green house, and kept near the glass. They are kept in this situation until they have sprung, and have acquired some strength; this will generally in the course of a month or six weeks from the time of sowing. They may not in every instance, but wherever they come up thick they ought to be carefully thinned out, so as to prevent them from choking and weakening each other. -Being treated in this way, they will become gradually inured to the open air. Although naturally hardy, yet when forced early they must not be suddenly removed from a warm temperature to a cold one, but be changed by slow degrees. The earth ought to be rather light and fine, and the smaller seeds but slightly covered, whilst the stronger ones require to be placed deep. Watering seeds is an important part of the process. If the earth in the pots be watered with a coarse rosed watering pot, scarcely any of the seeds will vegetate. This ought to be most carefully attended to. Annuals, when raised in this way, are sometimes transplanted into pots or pans, and when they have acquired strength they are again transplanted into the borders during showery weather about the end of April, or the beginning of May.

Hardy Annuals are generally grown quite as well when sown in the open borders at once, and this may be done betwixt the middle of February and the end of March. In any case, however, they must not be allowed to grow too thick in the patches, especially when they are strong growing sorts.

Half Hardy Annuals require to be treated the same as the Hardy ones when grown in pots, as described above.

Tender Annuals:—Of these there are comparatively few that are worth growing. There are, however, Balsams, Coxcombs, and a few others exceedingly handsome. They require to be raised in seed pots, sown about the middle of April, and when they have made their rough leaf potted into single thumb, or 60 sized pots, kept in heat, and shifted as often as the root touch the sides of the pots. They require to be kept continually in heat, although both Balsams and Coxcombs remain long in flower when removed into the green-house, after being fully in bloom. To grow these in high perfection they require very rich earth, prepared with stimulating manures, and to be grown in a close moist heat, near the glass. In this way we have grown the Balsam upwards of five feet in height, and nearly as much across.

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